THE STATE OF THE Greateſt KING,

Set forth in the Greatneſs of

SOLOMON,

AND THE

Glory of his REIGN;

VIZ.

That SOLOMON's Kingdom was the moſt pleaſant, moſt flouriſhing, and beſt fortified Kingdom in the World; his People the moſt honourable and happy People that ever were ſubject to any earthly Prince; *Jeruſalem* the moſt admirable City, and the Temple Built by *SOLOMON* (which is truly deſcrib'd) the moſt wonderful Houſe the World ever ſaw, the Expence laid out upon it amounting to a much greater Sum than all the Money in *Europe* can amount unto; and that neither the Great *Nebuchadnezzar*, nor *Alexander* the Great, nor yet any of the *Perſian* Kings, or *Roman* Emperors were equal in Glory to *SOLOMON*. All this and very much more, that is Profitable and Wonderful, is proved undeniably.

And becauſe different kinds of GOLD and SILVER hath been frequently mentioned in this Book, that the Reader may the better underſtand what is meant thereby, a ſhort Treatiſe is ſubjoyn'd thereto concerning the ſame, and the ſpecifick Gravity thereof, with eaſie Rules, and many plain Examples for trying of *Gold* and *Silver*, and finding their Purity exactly without Melting; and the Weight and Value (exactly) of the *Gold* and *Silver Coin* of *Great Britain*, without Weighing or Reckoning it, being altogether new.

By G. RENOLDS, *Profeſſor of the Mathematicks.*

Briſtol: Printed by *J. Penn*, Bookſeller in *Wine-Street*, for
the Author. M DCC XXI.

To His Grace

JOHN,

Duke of *ARGILE*,

Marqueſs of *Kintyre* and *Lorne*,
Earl of *Greenwich*, *Campbell* and *Cowell*; Viſcount *Lochow* and *Glen-Ilay*; Baron of *Chatham*, *Inverrary*, *Mull*, *Movern* and *Ferry*; Hereditary Juſtice-General of the Shire of *Argile*, the Iſlands, *&c.* Hereditary Ld. Lieutenant and High Sheriff of the ſaid Shire; Hereditary Great Maſter of the Houſhold in *Scotland*; one of His Majeſty's moſt Honourable Privy Council, *&c.* and Knight of the moſt Noble Order of the Garter.

My Lord,

I Preſume to beg Your Grace's Patronage of the following Work, which is chiefly an Eſtimate of the Riches of the greateſt King that ever ſway'd a Royal Scepter,

Scepter: The meer Aſſertion of this in Holy Writ is ſufficient to convince all Chriſtians of the Truth of it; but as his Wealth is there expreſſed in a Way that does not ſo much affect the Generality, I have been at Pains to make an exact Calculation of ſo much of it as the Sacred Writings give me any Light into, which (I hope) will be an agreeable and uſeful Entertainment to all that follow the Practice of the Noble *Bereans*. I'm perſuaded that ſuch an Account of any of the *Roman* Emperors would be extremely well receiv'd, and why a Prince, who excell'd them all in moſt Things valuable, who was of a Religion whoſe Truth is neceſſarily preſuppoſed to confirm our own; I ſay, why a particular Account of a Prince ſo circumſtanced, ſhould not be acceptable to the Publick, I'm at a loſs to know: I fear the little Regard commonly had to the Holy Scriptures, from their not being univerſally read but at Times when our Minds are too weak to receive or retain Impreſſions from them, whereas the Pagan Authors are read by (almoſt) all of a genteel Education, at Times when the livelieſt Impreſſions are made, and it is eſteem'd a piece of Politeneſs to be well verſed in them. Your Grace indeed cannot be ſuppoſed, as You have univerſally obtain'd the good Opinion of all equitable Men, for having ably and faithfully diſcharged the ſeveral great Poſts You have fill'd, not to be perfectly acquainted with Polity; but Your Grace's firm Adherence to the Proteſtant Religion, whoſe Glory it is to have the Word of GOD for its Rules of Faith, will not admit of any Imagination of Your being unacquainted with it: I'm confident the rendering any Part of it more Entertaining to the Publick can be no diſagreeable Deſign to Your Grace.

I know too well my own Weakneſs to pretend to draw Your Grace's Character, but cannot omit taking Notice of the eminent Service Your Grace did the Proteſtant Cauſe at *Dumblain*, in baffling the Deſigns of an Enemy, whoſe Forces were above treble the Number of thoſe commanded by Your Grace, who were not without the Conduct of experienc'd Generals, and other inferior Officers; whereas it may very well be remembred, that the Lord *Dundee*, with Two Thouſand of thoſe Men Your Grace had for Adverſaries, beat double their Number of King *William*'s regular Forces, commanded by a General, and other Inferior Officers of good Reputation, whoſe Conduct was not blamed, tho' they came off with the Loſs of above Three Fourths of their Army.

The aforeſaid Action I could not forbear to mention, becauſe very many Things of the greateſt Moment, and moſt weighty Concern, depended on it; for by obtaining the Victory in that Engagement, Your Grace had the Honour of being the chief Inſtru-

Inſtrument of continuing our King on his Throne, to exerciſe his Regal Power, in defending and maintaining the true Apoſtolick Faith and Doctrine, by being a tender Nurſing-Father to the beſt Reformed Church, for preventing the beſt Proteſtants all *Europe* over from falling Sacrifices to Popiſh Cruelty, and *Great Britain* and *Ireland* from being *Aceldamas*.

I ſhall not here preſume to mention Your Grace's other great Achievements, but obſerve that they all had one Embelliſhment, which ſhew'd them to be the Effect of true Magnanimity, that they were not done to Agrandiſe Your Grace's Family, which hath been Noble and Princely for many Hundreds, if not for ſome Thouſands of Years, and hath, long ſince, been deſervedly advanced to the higheſt Pinacle of Honour a *Britiſh* Subject is capable of arriving to.

That Your Grace may long continue a Support to the Proteſtant Cauſe, and an Ornament to Your Country, (as Your Noble Anceſtors have been) is the hearty Prayer of,

Your Grace's

Moſt Humble,

Moſt Obedient,

and Devoted Servant,

George Renolds.

THE PREFACE TO THE READER.

Courteous READER,

I *HAVE for thy Entertainment been at Pains to enquire particularly into the State of* SOLOMON, *who, as he is generally acknowledged the Greateſt of Princes, thou wilt here find a particular Account, and Confirmation of that Aſſertion from the beſt Authority: Thou wilt probably be aſtoniſhed at the Im-*

menſity of his Riches, conſidering the Diſproportion between the Largeneſs of his Empire and that of the Grand Seignior, *whoſe Wealth is as much inferior to* SOLOMON's, *as the* Turkiſh *Empire is ſuperior to his in Greatneſs. Many Reaſons may be given for this, though I ſhall mention but a few:* Firſt, *The* Grand Seignior *is a declared Enemy to the* KING OF KINGS, *by whom earthly* Kings Reign, and Princes degree Juſtice, *Prov.* viii. 15. *but* SOLOMON *was a great Favourite of His; and though His peculiar Favour is not to be diſcerned by the abundance of worldly Wealth and Honour, becauſe for the moſt part Heaven's greateſt Favourites have had but a very ſmall Share of them, and its greateſt Enemies have very often had them in as great Abundance as their Hearts could wiſh for; yet* GOD *promiſed to give* SOLOMON *Riches, Wealth and Honour, ſuch as none of the Kings had before him, and that not any after him ſhould have the like,* 2 Chron. i. 12. *and that he might perform his Promiſe to him, he made all his Enemies to bow down before him, and ſerve him all the Days of his Life, and gave him a peaceable Reign, and a wiſe and an underſtanding Heart, whereby he govern'd his Empire with the greateſt Prudence, by which he brought the greateſt part of the Riches in the World into it; for King* David *having conquered the Kingdom of* Edom, *and reduced it as a Province to his Empire, he thereby became Maſter of Two Sea-Port Towns on the* Arabian *Gulph, viz.* Eloth *and* Ezion-Geber; *and ſeeing*

ſeeing the Advantage that might be made of theſe Two Places, he wiſely took the Benefit of it, and there began that Traffick; which grew to ſo high a Pitch, under the wiſe Management of SOLOMON, *that thereby he drew to theſe Ports, and from thence to* Jeruſalem, *all the Trade of* Africa, Arabia, Perſia, *and* India, *which was the chief Fountain of thoſe Immenſe Riches he acquir'd. There are indeed abundance of Arguments to encline us to believe that many of the Ancients were poſſeſs'd of much greater Quantities of Gold and Silver than any that now live do enjoy, ſome of which thou wilt find in the following Book; and I'm perſuaded to believe, that the Mines did never yield ſuch large Quantities of Gold and Silver as they did in the Time of* DAVID *and* SOLOMON, *and I doubt not but many ſubſtantial Reaſons may be produc'd for it.*

All the Calculations in this Book, and the Treatiſe ſubjoin'd, being perform'd by Decimal Arithmetick, *I have in the Introduction writ ſo much of what concerns* Notation, Addition, Subſtraction, Multiplication, Diviſion *and* Reduction *of* Decimals *ſo plainly, that any that are but tolerably well acquainted with the firſt Five, or at moſt Six Rules of* Common Arithmetick, *may in a few Hours not only be able to perform all the Operations in this Book, and the Treatiſe annexed; but likewiſe to find how much Sterling Money is equal in Value to any Number of* Hebrew *Tallents, Shekels,* &c. *of Gold or Silver;*

Silver; and how much of the Weight or Meaſures of Great Britain, *any Number of* Hebrew *Weights and Meaſures are equal to.*

That the Reader may find as much Profit and Pleaſure in the Peruſal of what follows, as I have found Labour in the Performance, is what is hoped and deſired, by

GEORGE RENOLDS.

ERRATA.

PAge 3. Line 35. for $\frac{5}{0100}$, read $\frac{5}{1000}$. p. 14. l. 5. for 50.50, r. 5000. p. 22. l. 21. for 1500, r. 15,00. p. 27. l. 33. r. *Atticaſve Tyriaſve.* p. 41. l. 4. for *King of* Macedon, write (*King of* Macedon). p. 49. l. 1. for *Thouand*, r. *Thouſand.* p. 63. l. 4. for *God*, r. *Gold.* p. 78. l. 31. for *Praſſo*, r. *Craſſo.* p. 81. l. 9. for *Chamber*, r. *Chambers.* p. 84. l. 27. for 40.216 *s.* r. 46.883 *s.* l. 28. for 2010.8 *s.* r. 2344.15 *s.* l. 30. for 100.54 *l.* = to 100 *l.* 10 *s.* 9½ *d.* r. 117.207 *l.* = to 117 *l.* 4 *s.* 1¼ *d.* p. 92. l. 9. for 1, r. 0. for 2, r. 8. do ſo in l. 13. p. 97. l. 9. r. *Tractatus de Summo Bono.* p. 115. l. 1. for *Tanſactions*, r. *Tranſactions.* l. 18. dele *be.* p. 116. l. 1. dele *Specifick.* p. 127. l. 18. for *cauſed*, r. *cauſeth.*

THE INTRODUCTION.

CHAP. I. SECT. I.

Notation of Decimal Fractions.

ALL the Operations in this *Book* being perform'd by *DECIMAL ARITHMETICK*; and preſuming it may fall into the Hands of ſome that are but little acquainted therewith, I ſhall therefore give ſuch plain and eaſy *Rules* for attaining to the Knowledge of ſo much of the ſame, as any that are but tolerably acquainted with the firſt Five, or at moſt, Six *Rules* of *Common Arithmetick*, may perfectly underſtand the firſt Seven *Rules* of *Decimal Arithmetick* in a few Hours, which is all that is Neceſſary for underſtanding what this Tract contains.

Before I proceed, I ſhall write down a few *Symbols* which the Reader (who is not acquainted with them) is carefully to obſerve.

= This is the Sign of *Equal* in *Value*, *Weight*, or *Meaſure.*

: The Sign of *Is to*, or *to.*

: : The Sign of *So is.*

As in the *Examples* following, *viz.* 100 *Guineas* = to 105 *l.* which is to be read, 100 *Guineas* are equal in *Value* to 105 *l.* Sterling; 63 *Gallons* = to 1 *Hogſhead*; which is to be read, 63 *Gallons* are equal in *Meaſure* to one *Hogſhead*; tho' the words *Value*, *Weight*, or *Meaſure*, are not to be always expreſſed, yet they are underſtood conſtantly.

As 2 : 6 :: 18 : 54. which is the Sign of *Proportion*, and to be read, *As* 2 *is to* 6, *ſo is* 18 *to* 54. i. e. *As* 2 is in *Proportion* to 6, ſo is 18 to 54: The 2 is contain'd in 6 three times, and 18 is contain'd in 54 three times.

In *Decimal Fractions* we always ſuppoſe (and it were very commodious if it were really ſo) that all *Integers*, or *Whole Things*, are divided into 10 = *Parts*, which are called *Primes*; each of which are divided into other 10 = *Parts*, call'd *Seconds*; and each of the *Seconds* into other 10 = *Parts*, call'd *Thirds*; ſo by dividing the former, and ſubdividing the latter, we may proceed *ad Infinitum.* And as one *Prime* is $\frac{1}{10}$ of an *Unit*, or *Integer*, ſo one *Second* is $\frac{1}{10}$ of $\frac{1}{10}$, or $\frac{1}{100}$ *Part* of an *Unit*; and one *Third* is $\frac{1}{10}$ of $\frac{1}{10}$ of $\frac{1}{10}$ of an *Unit*, that is, $\frac{1}{1000}$ *Part* of an *Unit.*

In *Decimal Fractions* the *Denominator* (which is the *Number* writ below the *ſmall Line* in *Vulgar Fractions*) is ſeldom or never writ, but may at firſt ſight be known by the Number of *Places* poſſeſſed by the Figures in the *Numerator* (which is the *Num-*

ber

ber writ above the *ſmall Line* in *Vulgar Fractions*) the *Denominator* being 1 with ſo many *Cyphers* annexed to it as there are Figures in the *Numerator*; as .8 being a *Decimal Fraction* is $\frac{8}{10}$, *viz.* the *Denominator* is 1 with one *Cypher* annexed to it; and .58 being a *Decimal Fraction* is $\frac{58}{100}$, the *Denominator* is 1 with two *Cyphers* annexed to it, becauſe there are two Figures in the *Numerator*; and .0506 being a *Decimal Fraction*, is $\frac{506}{10000}$, *i. e.* 506 *Parts* of 10000 *Parts*; i. e. If any *Whole Thing* be *Divided* into 10000 = *Parts*, both the *Vulgar* and *Decimal Fraction* do each expreſs, or ſignify 506 of theſe *Parts*, the *Denominator* is 1 with 4 *Cyphers*, becauſe there are 4 *Figures* in the *Numerator* of the *Decimal Fraction.*

A *Decimal Fraction* being written without its *Denominator*, is known from a *Whole Number*, by having a *Point*, or *Comma*, prefix'd to it thus, .34, or thus, ,34, is $\frac{34}{100}$, and $5\frac{34}{100}$ being writ *Decimally*, muſt ſtand thus, 5.34, or thus, 5,34; and $574\frac{345}{1000}$ thus, 574.345, or thus, 574,345.

As a *Cypher* on the right of a Figure, or Figures, in *Whole Numbers* increaſe their *Value* to a *Tenfold Proportion*, and two *Cyphers* to a *Hundredfold*, and three to a *Thouſandfold Proportion*, &c. So a *Cypher*, or *Cyphers*, on the left of a Figure, or Figures, in *Decimal Fractions*, diminiſh or leſſen their *Value* by the like *Proportion*; and ſo 5 being a *Whole Number*, if it have a *Cypher* on the right of it, it will be 50, which is ten times 5; and if it have two, it will be 500, which is 100 times 5; but .5 being a *Decimal Fraction*, is $\frac{5}{10}$; and if it have a *Cypher* on the left of it, thus, ,05, it will be $\frac{5}{100}$, which is but the tenth *Part* of $\frac{5}{10}$; and if two *Cyphers* be prefix'd, thus, .005, it will be $\frac{5}{1000}$, which is but the hundredth *Part* of $\frac{5}{10}$.

As a *Cypher*, or *Cyphers*, on the left of a Figure, or Figures, in *Whole Numbers*, are of no Signification, ſo a *Cypher*, or *Cyphers*, on the right of a Figure,

gure, or Figures, in *Decimal Fractions*, are of no *Value*; and ſo .5, .50, .500, are all of the ſame *Value*; for .5 is the *Half* of *any Whole Thing* divided into 10 = *Parts*, and .50 is but the *Half of any Whole Thing* divided into 100 = *Parts*, and .500 is no more but the *Half of any whole Thing* divided into 1000 = *Parts*. By which you may perceive that *Cyphers*, being annex'd to any *Decimal Fraction*, do neither increaſe nor diminiſh the *Value* thereof.

And if *Cyphers* having a *Point*, or *Comma*, on the left of them, be annexed to any *Whole Number*, they will neither increaſe nor diminiſh that *Whole Number*; for 65.000 is neither more nor leſs than 65; for the three *Cyphers* annexed to 65, ſignify *Nothing of a Thouſand*, which is not any thing.

* * *

THE

The following Table ſhews the very Foundation of Decimal Fractions, *and therefore it will be convenient for the* Reader *to conſider it before he proceed.*

The TABLE.

Whole Numbers.							*Decimal Fractions.*					
5	4	3	2	1	0	.	1	2	3	4	5	6
Hundred of Thouſands.	*Tens of Thouſands.*	*Thouſands.*	*Hundreds.*	*Tens.*	*Units.*		*Part of Ten of an Unit, or* $\frac{1}{10}$.	*Parts of a Hundred of an Unit, or* $\frac{2}{100}$.	*Parts of a Thouſand of an Unit, or* $\frac{3}{1000}$.	*Parts of Ten Thouſand of an Unit, or* $\frac{4}{10000}$.	*Parts of a Hundred Thouſand of an Unit, or* $\frac{5}{100000}$.	*Parts of a Million of an Unit, or* $\frac{6}{1000000}$.

By

By this *Table* it is evident, that theſe *Decimal Fractions*, or *Parts*, are really more *Homogeneal*, or agreeing with *Whole Numbers* than *Vulgar Fractions*; for indeed, all plain *Whole Numbers*, are in effect but *Decimal Parts* one to another.

Suppoſe any *Number* compos'd of the ſame *Digits*, as *6666*, the 6 in the Place of Thouſands, is ten times the *Value* of the 6 in the Place of Hundreds, which is ten times the *Value* of the 6 in the Tens Place, which is ten times the *Value* of the 6 in the Units Place; for the *Value* of Places decreaſe in a Tenfold Proportion from the Left-hand to the Right, both in *Whole Numbers* and in *Decimal Fractions*, and they increaſe in the like Proportion from the Right-hand to the Left. Therefore all, or any of the four Figures above may be taken as *Integers*, or *Decimal Parts* of an *Integer*; if they be taken as *Decimal Parts*, or *Fractions*, they muſt be writ thus, *.6666*; or thus, *,6666*; and the Proportion will hold to be ſtill the ſame; for the 6 in the Place of *Primes*, which is that neareſt the Left-hand, or that neareſt the Point, or Comma, is ten times the *Value* of the 6 in the Place of *Seconds*; the 6 in the Place of *Primes*, being 6 Parts of any *Unit*, or *Integer*, which is *Divided* into 10 = Parts; and the 6 in the Place of *Seconds*, is 6 Parts of any *Unit*, which is *Divided* into 100 = Parts, and is ten times the *Value* of the 6 in the Place of *Thirds*, for it is but 6 Parts of an *Unit*, or *Integer*, Divided into 1000 = Parts, which is ten times the *Value* of the 6 in the Place of *Fourths*, which is but 6 Parts of an *Unit*, Divided into 10000 = Parts.

SECT. II.

Addition of Decimal Fractions.

IN adding *Whole Numbers* and *Mix'd Numbers*, or *Whole Numbers* and *Decimal Fractions*, or *Mix'd Numbers* and *Decimal Fractions* together, care muſt be taken to write *Units* exactly under *Units*; *Tens* under *Tens*, &c. and *Primes* under *Primes*; *Seconds* under *Seconds*. This being done, and a Line drawn under, proceed in adding the *Numbers* together exactly, as in *Addition of Whole Numbers* of one *Denomination*; and be ſure to place the ſeperating Point, or Comma, exactly under thoſe above.

Example 1.

Suppoſe it be required to add 75 *l.* 3.54 *l.* .5876 *l.* *and* 354 *l. together.*

```
                              l.
                            ⎧ 75
                            ⎪   3.54
Place the Numbers thus,    <      .5876
                            ⎩354.
                           ─────────────
                  Total,—433.1276
                           ─────────────
```

Example 2.

Let it be required to add 3.0047 *l.* 68 *l.* .538 *l.* 754 *l.* .0098 *l. together.*

```
                              l.
                            ⎧   3.0047
                            ⎪  68.
Write the Numbers thus,    <      .538
                            ⎪754.
                            ⎩     .0098
                           ─────────────
                    Sum,—825.5525
                           ─────────────
```

In adding Decimal Fractions alone, write Primes under Primes, Seconds under Seconds, *&c.* and proceed in adding the ſeveral *Sums* together exactly, as in *Addition of Whole Numbers* of one Denomination; and in the *Total Sum*, write the ſeperating Point, or Comma, exactly under thoſe above, and carry 1 for each 10 you have in the place of Primes, and write the *Sum* thereof on the left of the Point, or Comma.

Example.

Suppoſe it be required to add .8975 *l.* .968 *l.* .754006 *l.* .0086 *l.* .695 *l.* and 49 *l.* *together.*

l.
Write the Number thus,
.8975
.968
.754006
.0086
.695
.49

Sum,—3.813106

S E C T. III.

Subſtraction of Decimal Fractions.

IN ſubſtracting *Whole Numbers* from *Mix'd Numbers*, or *Mix'd Numbers* from *Whole Numbers*, or *Mix'd Numbers* from *Mix'd Numbers*, or *Decimal Fractions* from *Whole* or *Mix'd Numbers*, or *Decimal Fractions* from *Decimal Fractions*; obſerve to place the *Numbers* as you are directed in *Addition*, and proceed in the *Operation* exactly as in *Subſtraction* of *of Whole Numbers* of one *Denomination*; but obſerve always to place the *Number* of greateſt *Value* above the reſpective *Number* of leſſer *Value*, and the ſeperating Point, or Comma, place in the *Remainder* or *Difference*, exactly under thoſe above, as in the *Examples* following.

	l.		l.
Whole Number,—	63.000	*Mix'd Number,*—	534.054
Mix'd Number,—	8.497	*Whole Number,*—	97.
Difference,———	54.503	*Difference,*———	437.054
Proof,————	63.	*Proof,*————	534.054

Note, *Ounces are mark'd with* z, *Penny-Weights with* dw, *and Grains with* gr.

	l.		z.
Mix'd Number,—	23.046	*Whole Number,*—	8.000
Mix'd Number,—	8.758	*Decimal Fraction,*-	0.985
Difference,———	14.288	*Difference,*———	7.015

	l.		z.
Mix'd Number,—	3.006	*Decimal Fraction,* —	.9341
Decimal Fraction,-	0.843	*Decimal Fraction,* —	.5623
Remainder,———	2.163	*Remainder,* or *Difference,*—	.3718

SECT. IV.

Multiplication of Decimal Fractions.

IN all *Caſes*, where there is a Decimal Fraction in the *Multiplicand*, or *Multiplier*, or in both, proceed in the *Operation* exactly as in *Multiplication of Whole Numbers* of one Denomination, and ſet ſo many Figures a-part for a Decimal Fraction in the *Product*, as there are Figures in the Decimal Fractions in the *Multiplicand* and *Multiplier*; but if there be not ſo many Figures in the *Product* as will be = to the *Number* of Figures in the *Multiplicand* and *Multiplier*, the *Number* muſt be made up by prefixing *Cyphers* to the Figures in the *Product*, as in the *Examples* following.

Example 1.		*Example* 2.	
Multiplicand,—	745	*Multiplicand*,—	5.46
Multiplier,——	8.54	*Multiplier*,——	352
	2980		1092
	3725		2730
	5960		1638
Product,———	6362.30	*Product*,———	1921.92

In the firſt *Example* above, the *Multiplicand* is a *Whole Number*, and the *Multiplier* a *Mix'd Number*; and in the *Multiplier* there is two Figures in the Decimal Fraction, therefore I ſet two Figures a-part with a ſeparating Point in the Product for a Decimal Fraction, to = them.

Example 3.

62.5
3.84

2500
5000
1875

240.000

Example 4.

64532
.413

193596
64532
258128

26651.716

Example 5.

.3084
.079

27756
21588

.0243636

Example 6.

.0978
.0056

5868
4890

.00054768

In the ſixth *Example*, the *Multiplicand* and *Multiplier* are both Decimal Fractions, and they have 8 Figures in them, and there is but 5 Figures in the Product, therefore I prefix 3 Cyphers to the Figures in the Product, and ſo they are made 8, which is = to the Number in the *Multiplicand* and *Multiplier*.

SECT.

SECT. V.

Diviſion of Decimal Fractions.

IN Diviſion of Decimal Fractions, proceed in the *Operation* exactly as you do in *Whole Numbers*; the only Difficulty is to diſcover the *Value* of the *Quotient*, for which purpoſe this is the

RULE.

Obſerve how many Figures there are in the Decimal Fraction *in the* Dividend *alone, for ſo many* Figures *there muſt be in the* Decimal Fraction *of the* Diviſor *and* Quotient *together: Therefore (in your Mind) ſubſtract the* Number *of* Figures *in the* Decimal Fraction *in the* Diviſor, *from the* Number *of* Figures *in the* Decimal Fraction *in the* Dividend, *and the* Difference *will be the exact* Number *of* Figures *that muſt be in the* Decimal Fraction *in the* Quotient; *therefore ſet a-part by a ſeperating* Point, *or* Comma, *ſo many* Figures *for a* Decimal Fraction *in the* Quotient. *But if the* Number *of* Decimal Places *in the* Diviſor, *and the* Figures *in the* Quotient, *be not ſo many as the* Figures *in the* Decimal Fraction *in the* Dividend, *then muſt you prefix ſo many* Cyphers *to the* Figures *in the* Quotient, *as will make the* Number =, *and make a* Point, *or* Comma, *on the left of the* Cyphers *prefix'd, as in the* Examples *following.*

Example

Example 1.

745) 6362.30 (8.54
5960..

.4023
3725

.2980
.2980

....

The Diviſor is a Whole Number, and there are but two Figures in the Decimal Fraction in the Dividend, therefore there are two Figures in the Decimal Fraction in the Quotient.

Example 2.

Diviſor. Dividend. Quotient.
352) 1921.92 (5.46
1760..

161.9
140.8

21.12
21.12

Example.

Example 3.

62.5) 240.000 (3.84
1875 . .

. 52.50
50.50

2.500
2.500

When there is a Decimal Fraction in the Diviſor, and no Decimal Fraction in the Dividend, or not ſo many Figures in the Decimal Fraction in the Dividend, then annex ſo many Cyphers to the Dividend as will = the Number of Figures in the Decimal Fraction in the Diviſor, or more; and if the Dividend be a Whole Number, prefix a Point, or Comma, before the Cyphers as in the third *Example.*

Example 4.

.413) 26651.716 (64532
2478. . . .

. 1871
1652

2197
2065

. 1321
1239

. . 826
826

In this fourth *Example*, the Diviſor is a Decimal Fraction, and there are three Figures in it, and as many in the Decimal Fraction in the Dividend, therefore the Quotient is a Whole Number.

Example 5.	*Example* 6.
.079) .0243636 (.3084	.0978) .00054768 (.0056
237...	4890.
..663	.5868
632	5868
316	
316	

In the ſixth Example, there are 8 Figures in the Dividend, and when the Dividend was divided by the 4 Figures in the Diviſor, there was but 2 Figures in the Quotient, and ſo the Number of Figures in the Diviſor and Quotient together were but 6, which is 2 leſs than the Number of Figures in the Dividend; therefore I prefix'd 2 Cyphers to the 2 Figures in the Quotient, and ſo the Number of Figures in the Diviſor and Quotient are 8, which is = to the Number in the Dividend.

Multiplication of Decimal Fractions is proved exactly as Multiplication of Whole Numbers: Divide the Product by the Multiplicand, and the Quotient will be the Multiplier, or divide the Product by the Multiplier, and the Quotient will be the Multiplicand. And ſo the ſix Examples in Diviſion prove the ſix Examples in Multiplication; for in the firſt Example of Diviſion, the Dividend is the Product in the firſt Example of Multiplication, and the Diviſor the Multiplicand, and

and the Multiplier the Quotient. And in the ſecond Example in Diviſion, the Dividend is the Product in the ſecond Example in Multiplication, the Diviſor the Multiplier, and the Quotient the Multiplicand; and ſo of the other four Examples reſpectively.

As Diviſion proves Multiplication of Decimals, ſo Multiplication proves Diviſion of Decimals; for if the Quotient be Multiplied by the Diviſor, or the Diviſor by the Quotient, the Product will be the Dividend; and ſo the ſix Examples in Multiplication, prove that the Operations in the ſix Examples in Diviſion are right perform'd.

When there is a Remainder in Diviſion of Whole Numbers, if Cyphers be annexed to the Whole Number in the Dividend, and thoſe Cyphers diſtinguiſhed from the Whole Number with a Point, or Comma, and ſo many Figures in the Quotient ſet a-part by a Point, or Comma, for a Decimal Fraction, as there are Cyphers annexed to the Dividend, made uſe of in the Operation, the Remainder will then be exactly enough Divided, without bringing it to any lower Denomination than the Dividend: In ſuch Caſes 5, or at moſt, 6 Cyphers will be enough, but for the moſt part 3 or 4 will be ſufficient.

* * *

Example.

Let 9453 *l. be divided by* 434.

```
          l.            l.
434)  9453.0000   (21.7811
      868·  ····
      ————
       ·773
        434
       ———
       3390
       3038
       ————
      ·3520
       3472
       ————
        ··480
          434
         ———
          ·460
           434
          ———
           ·26
```

Now, ſuppoſe the Number in the Dividend to be Pounds Sterling, and the Number in the Diviſor to be Men, among whom the Sum in the Dividend is equally divided, the Quotient is each Man's = Share, to leſs than the Tenth Part of a Farthing.

SECT. VI.

Reduction of Decimal Fractions.

REduction teacheth to Reduce a Vulgar Fraction to a Decimal Fraction = to the Vulgar Fraction, and to find what Value, Weight, or Meaſure the Decimal Fraction expreſſeth.

Firſt, To Reduce a proper Vulgar Fraction to a Decimal Fraction, this is the

RULE.

Annex a Cypher, *or* Cyphers, *to the* Numerator *of the* Vulgar Fraction, *with a* Point, *or* Comma, *prefix'd to the* Cypher, *or* Cyphers, *and divide the* Numerator *and the* Cypher, *or* Cyphers, *by the* Denominator, *the* Quotient *(if there be no* Remainder) *will be a* Decimal Fraction = *in* Value, Weight, *or* Meaſure, *to the* Vulgar Fraction; *and if any thing remain there will be a difference, but it will be ſo inconſiderable that it will not be worth regarding.*

Example 1.

Let $\frac{15}{20}$ *l. be reduced to a Decimal Fraction.*

Numerator 15

Denominator 20) 15.0 (.75 *l.* = *to* $\frac{15}{20}$ *l.*

140

100

100

Exampl

Example 2.

Let $\frac{12}{21}$ *Guinea be reduced to a Decimal Fraction.*

```
21)  12.0000  (.5714 Guinea = to 12/21 Guinea.
     105···
     ————
     ·150
      147
      ————
     · ·30
        21
       ————
       ·90
        84
       ————
        ·6
```

Though there be a Remainder in this Operation, yet the Decimal Fraction is within the Tenth Part of a Farthing of being = to the Vulgar Fraction, which is very inconſiderable.

Example 3.

Let $\frac{11}{240}$ *l. be reduced to a Decimal Fraction.*

```
240)  11.0000  (.0458
       960··
       —————
      ·1400
       1200
       —————
       ·2000
        1920
        —————
        ·80
```

Example 4.

Let $\frac{48}{252}$ Tun, Wine-Meaſure, be reduced to a Decimal Fraction.

252) 48.000000 (.190476 *Tun* ≐ *to* $\frac{48}{252}$ *Tun.*
252 · · · · ·
———
2280
2268
———
1200
1008
———
·1920
1764
———
·1560
1512
———
··48

The Decimal Fraction in the Quotient is within the Hundredth Part of a Pint of being = to the Vulgar Fraction, which is moſt inconſiderable.

Example 5.

Let $\frac{18}{24}$ Gallon be reduced to a Decimal Fraction.

24) 18.00 (.75 *Gallon, exactly = to* $\frac{18}{24}$ *Gallon.*
168·
———
·120
120
———

Example 6.

Let $\frac{9}{36}$ *z. and* $\frac{6}{12}$ *s. be reduced to a Decimal Fraction.*

```
36) 9.00 (.25 z.          12) 6.0 (.5 s.
    72·                       60
    ───                       ──
    180                       ..
    180
    ───
    ...
```

If the Vulgar Fraction be but part of 1 *s.* 1 *d.* 1 *z.* or any ſmall Integer, that contains but few Integers of an inferior Denomination, it will be ſufficient to annex two Cyphers, or at moſt three, to the Numerator of the Vulgar Fraction, and to divide the Numerator and the Cyphers by the Denominator: But if the Vulgar Fraction be part of 1 *Tun*, 1 *Year*, or 1 *Mile*, or any large Integer, that contains in it many Integers of an inferior Denomination, then it is proper to annex ſix Cyphers to the Numerator, and to divide it and all the Cyphers by the Denominator, unleſs there happen to be nothing remaining before you make uſe of all the Cyphers; when it is ſo, you need not to carry on the Work any farther, tho' you have never ſo many Cyphers to bring down from the Dividend.

Secondly, To find the Value, Weight, or Meaſure a Decimal Fraction expreſſeth, this is the

RULE.

Multiply the Decimal Fraction *by the* Number *of* Units, *or* Integers, *of the next inferior* Denomination, *that are* = *in* Value, Weight, *or* Meaſure, *to* *an* Unit, *or* Integer, *of the* Denomination *the* Fraction *is a part of*; *and if there be any* Figure, *or* Figures, *on the left of the* Point, *or* Comma, *in the* Product, *that* Figure, *or* Figures, *is a* Whole Number *of the* Denomination *the* Multiplier *is of*; *and the* Number *on the right of the* Point, *or* Comma, *is a* Dicimal Fraction *of the ſame* Denomination, *and muſt be* Multiplied *by the* Number *of* Units *of the next inferior* Denomination *that are* = *to an* Unit, *or* Integer, *of the* Denomination *the* Decimal Fraction *in the firſt* Product *is a part of*; *and the* Number *on the left of the* Point, *or* Comma, *in the ſecond* Product *is a* Whole Number *of the* Denomination *the ſecond* Multiplier *is of. Proceed in this manner till you have found the* Value, Weight, *or* Meaſure, *of the given* Fraction *in each of the inferior* Denominations.

Example 1.

.75 *l. Given Fraction.*
20 *s. Multiplier.*

s. 1500 *Product.*

Example 2.

.875 *z. Given Number.*
20 *dw. First Multiplier.*

dw. 17.500 *Firſt Product.*
24 *gr. Second Multiplier.*

gr. 12.000 *Third Product.*

The .875 z. in the Second Example, is Troy-Weight.

Note,

Note, The Value of the Decimal Fraction of 1 *l.* Sterling, may be found more readily than by the laſt Rule, by this following

RULE.

Double the Figure *in the place of* Primes, *that Double will be ſo many* Shillings; *and if the* Figure *in the place of* Seconds *be* 5, *or more than* 5, *then for the* 5 *add another* Shilling *to the former* Shillings; *then for every one that is over and above the* 5 *in the place of* Seconds, *or that is under* 5 *in that place, count* 10, *and to that add the* Figure *in the place of* Thirds, *and reckon the* Sum *ſo many* Farthings; *but if that* Sum *be above* 13, *and leſs than* 38, *abate* 1, *but if it be above* 38, *abate* 2, *which, with the* Shillings, *will be the Value of the* Decimal Fraction.

Example 1.

Suppoſe the Value of .7985 *l. be required.*

The double of 7 is 14 *s.* to which I add 1 *s.* for the 5 in the 9, and the Sum is 15 *s.* and for the 4 that's over and above the 5 in the 9, I reckon 40 Farthings, to which I add the 8 in the place of Thirds, and the Sum is 48 Farthings; but being above 38, I abate 2, and ſo it is only 46 Farthings = to 11 *d.* $\frac{1}{2}$, which I add to the 15 *s.* and the Sum is 15 *s.* 11 *d.* $\frac{1}{2}$, which is the Value of .798 *l.* Sterling: As for the 5 in the place of Fourths, it being leſs than half a Farthing, is not minded.

Example 2.

Suppoſe the Value of .34579 *l. be required.*

The double of 3 is 6 *s.* and the 4 in the place of Seconds is 40, and 5 in the place of Thirds, is 45, which being above 38, I abate two, and 43 remains, which is 43 Farthings = to 10 *d.* $\frac{3}{4}$, which added to the 6 *s.* the Sum is 6 *s.* 10 *d.* $\frac{3}{4}$, the Value of .345 *l.* As for the 79, it being leſs than a Farthing, is not regarded.

Example 3.

Suppoſe the Value of .09987 *l. be required.*

For the Cypher I reckon nothing, for the 5 in the 9 in the place of Seconds, I reckon 1 *s.* for the 4 that is over and above the 5 in that 9, I reckon 40 Farthings, to which I add the 9 in the place of Thirds, and the Sum is 49, which being greater than 38, I abate two, and 47 remains, which is 47 Farthings = to 11 *d.* $\frac{3}{4}$, which added to the 1 *s.* the Sum is 1 *s.* 11 *d.* $\frac{3}{4}$, the Value of 099 *l.* Sterling. As for the 87 that is over and above, it being leſs than a Farthing, is not regarded.

CHAP.

CHAP. II.

Of the Hebrew, Greek, *and* Roman *Money*, &c.

BEFORE I proceed, I ſhall, for the *Reader's* Satisfaction, give an exact Account of what the Learned Dr. *Prideaux*, Dean of *Norwich*, ſays, in his Preface to the Connection of the *Hiſtory* of the *Old* and *New Teſtament*, of the *Hebrew* and *Roman* Money; by which he proves both undeniably to be according to the Value he has valued it at, in *Britiſh* Money.

It is to be obſerv'd, that among the *Antients*, the way of reckoning their Money was by *Talents*; ſo the *Hebrews*, ſo the *Babylonians*, ſo the *Greeks*, and ſo the *Romans* did reckon; and of theſe *Talents* they had Sub-diviſions, which were uſually into *Mina's* and *Drachms*, i. e. of their *Talents* into *Mina's*, and of their *Mina's* into *Drachms*.

The *Hebrews* had beſides theſe, their *Shekels*, and half *Shekels*, or *Beka's*, and the *Romans* their *Denarii*; which laſt, were very near of the ſame Value with the *Drachms* of the *Greeks*.

What was the Value of an *Hebrew Talent*, appears from *Exodus* xxxviii. 25, 26. for there, 603550 Perſons, at an half *Shekel* an Head, they muſt have paid in the whole 301775 *Shekels*, and that Sum is there ſaid to amount to 100 *Talents*, and 1775 *Shekels* over; if therefore you deduct the 1775 *Shekels* from the Number 301775, and divide the remaining Sum, *i. e.* 300000 by 100, this will prove each of thoſe *Talents* to contain 3000 *Shekels*, each of theſe *Shekels* weighed about 3 Shillings of our Money; and 60 of them *Ezekiel* tells us, made a *Mina*, xlv. 12. and therefore 50 of thoſe *Mina's* made a *Talent*. And as to their *Drachms*, it appears by the Goſpel of St. *Matthew*, that it was the fourth part of a *Shekel*, that is, 9 Pence of our Money: For there (*Chap.* xvii. *v.* 24, 25, 26, and 27.) the Tribute-Money annually paid to the Temple by every *Jew* (which was half a *Shekel*, *Talmud in Shekalim)* is called in the *Greek*, that which ſignifies the two *Drachm-Piece* in *Engliſh*; and therefore, if the half *Shekel* contained two *Drachms*, a *Drachm* muſt have been the quarter part of a *Shekel*, and every *Shekel* muſt have contain'd four of them, and ſo *Joſephus* tells us it did: For he ſaith (*Antiq.* Lib. III. *Chap.* 9.) that a *Shekel* contain'd four *Attick Drachms*, which is not exactly to be underſtood according to the Weight, but according to the Valuation in the Currency of common Payments; for according to the Weight, the *Attic Drachm* did not exceed 8 Pence Farthing, half Farthing of our Money; and an *Hebrew Drachm*, as I have ſaid, was 9 Pence; but what the *Attic Drachm* fell ſhort of the *Hebrew* in Weight, might be made up in the Fineneſs, and its ready Currency in all Countries (which laſt, the *Hebrew Drachm*, could not have) and ſo might be made equivalent in common Eſtimation among the *Jews*.

Allowing therefore a *Drachm*, as well *Attic* as *Jewiſh*, as valued in *Judea*, to be equivalent to 9 Pence of our Money, a *Beka*, or half *Shekel*, will be 1 Shilling and 6 Pence, a *Shekel* 3 Shillings, a *Mina* 9 Pounds, and a *Talent* 450 Pounds. So was it in the Time of *Moſes* and *Ezekiel*; and ſo was it in the Time of *Joſephus*, among that People; for in *Antiq.* Lib. XIV. *Chap.* 12. he tells us, that an *Hebrew Mina* contain'd two *Litra's* and an half, which comes exactly to 9 Pounds Sterling: For a *Litra* being the ſame with a *Roman Libra*, contain'd 12 Ounces, *Troy-Weight*, that is, 96 *Drachms*; and therefore two *Litra's* and an half muſt contain 240 *Drachms*, which being eſtimated at 9 Pence a *Drachm*, according to the *Jewiſh* Valuation, comes exactly to 60 *Shekels*, or 9 Pounds Sterling.

And this Account agreeth exactly with that of *Alexandria:* For the *Alexandrian Talent* contain'd 12000 *Attic Drachms*; and 12000 *Attic Drachms*, according to the *Jewiſh* Valuation *(Feſtus Pompeius, Dionyſius Halicarnaſſeus etiam Dicit Talentum Alexandrinum continere* 125 *Libras Romanas*; *Libræ autem Romanæ* 125 *continent Drachmas Atticas* 12000) being 12000 of our 9 Pences, they amount to 450 Pounds of Sterling Money, which is the ſame Value with the *Moſaic Talent.*

But here it is to be obſerved, that though the *Alexandrian Talent* amounted to 12000 *Attic Drachms*, yet they themſelves reckoned it but 6000 *Drachms*, becauſe every *Alexandrian Drachm* contained two *Attic Drachms*; *(varro æſtimat Drachmas Alexandrinas Duplo ſuperaſſe Atticaſive Tyriaſive)* and therefore the *Septuagint Verſion* being made by the *Alexandrian Jews*, they there render the *Hebrew* word *Shekel* by a *Greek* word, which ſignifieth two *Drachms*, becauſe two *Alexandrian Drachms* made a *Shekel*, two of them amounting to as much as four *Attic Drachms.*

And

And therefore computing the *Alexandrian* Money according to the ſame Method, in which we have computed the *Jewiſh*, it will be as followeth; one *Drachm* of *Alexandrian*, will be of our Money, 1 Shilling and 6 Pence; one *Didrachm*, or *Shekel*, conſiſting of two *Drachms* of *Alexandria*, or four of *Attica*, will be 3 Shillings; one *Mina*, conſiſting of 60 *Didrachms*, or *Shekels*, will be 9 Pounds; and one *Talent*, conſiſting of 50 *Mina's*, which is the *Talent* of *Moſes*, Exod. xxxviii. 25. and ſo alſo is it the *Talent* of *Joſephus*: For he tells us, (*Antiq.* Lib. III. *Chap.* 7.) that an *Hebrew Talent* contain'd 100 *Greek* (i. e. *Attic*) *Mina's*; for thoſe 50 *Mina's*, which here make an *Alexandrian Talent*, would be 100 *Attic Mina's* in the like Method of Valuation, the *Alexandrian Talent* containing double as much as the *Attic Talent*, both in the whole, and alſo in its parts, in whatſoever Method both ſhall be equally diſtributed.

Among the *Greeks*, the eſtabliſhed Rule was, that 100 *Drachms* made a *Mina*, and 60 *Mina's* a *Talent*, (*Julii Pollucis Onomaſticon*, Lib. X. *Chap.* 6.) But in ſome different States, their *Drachms* being different, accordingly their *Mina's* and *Talents* were within the ſame Proportion different alſo.

But the Money of *Attica* was the Standard by which all the reſt were valued, according as they more or leſs differed from it. And therefore it being of moſt Note, where-ever any *Greek* Hiſtorian ſpeaks of *Talents*, *Mina's*, or *Drachms*, if they be ſimply mentioned, it is always to be underſtood of *Talents*, *Mina's*, or *Drachms* of *Attica*, and never of the *Talents*, *Mina's*, or *Drachms* of any other Place, unleſs it be expreſſed.

Dr. *Bernard*, in *Libro de Menſuris & Ponderibus Antiquis*, lays the middle ſort of *Attic Drachms* at 8 Pence-farthing of our Money, and the *Mina's* and *Talents* accordingly, in the Proportions abovementioned.

The

The *Babylonian Talent* (according to *Pollux*, Lib. X. *Chap.* 6. p. 437.) contained 7000 of thoſe *Drachms*.

The *Roman Talent* (according to *Feſtus Pompeius)* contained 72 *Italic Mina's*, which were the ſame with the *Roman Libra's*; and 96 *Roman Denarius's*, each being of the Value of 7 Pence-half-penny of our Money, made a *Roman Libra*.

But all the Valuations I have hitherto mentioned, muſt be underſtood of Silver-Money, and not of Gold, for that was much higher. The Proportion of Gold to Silver was, among the *Antients*, moſt commonly at 10 to 1; ſometimes it was raiſed to be as 11 to 1, and ſometimes as 12 is to 1, and ſometimes as 13 to 1.

In the Time of King *Edward* the Firſt, it was here in *England* at the Value of 10 to 1; but it is now gotten at 16 to 1.

But to make the Whole of this Matter the eaſier to the Reader, I will lay all of it before him in this following Table of Valuations.

* * *

TABLES OF *MONEY*, &c.

TABLE I.

Of Money, &c.

Hebrew Money.		*British Money.*		
		l.	*s.*	*d.*
AN *Hebrew Drachm*, —	= to	000	00	9
Two *Drachms* made a *Beka*, or half a *Shekel*, which was the Tribute Money paid by every *Jew* to the Temple,	= to	000	01	6
Two *Beka's* made a *Shekel*, —	= to	000	03	0
Sixty *Shekels* made a *Mina*, —	= to	009	00	0

Hebrew Money.		*Britiſh Money.*		
		l.	*s.*	*d.*
Fifty *Mina's* made a *Talent* in Silver, — —	= to	450	00	0
A *Talent* in Gold = to 16 in Silver, — —	= to	7200	00	0

Attic Money, according to Mr. *Brerewood*.

Attic Money.		*Britiſh Money.*		
		l.	*s.*	*d.*
An *Attic Drachm*, — —	= to	000	00	7½
An Hundred *Drachms* made a *Mina*, — —	= to	003	02	6
Sixty *Mina's* made a *Talent* of Silver, — —	= to	187	10	0
A *Talent* of Gold = to 16 of Silver, — —	= to	3000	00	0

Attic Money, according to Dr. *Bernard*.

Attic Money.		*Britiſh Money.*		
		l.	*s.*	*d.*
An *Attic Drachm*, — —	= to	000	00	8¼
An Hundred *Drachms* made a *Mina*, — —	= to	003	08	9
Sixty *Mina's* made a *Talent* of Silver, — —	= to	206	05	0
A *Talent* of Gold = to 16 of Silver, — —	= to	3300	00	0

Babyloniſh Money, according to Mr. *Brerewood*.

Babyloniſh Money.		*Britiſh Money.*		
		l.	*s.*	*d.*
A *Babyloniſh Talent* in Silver, containing 7000 *Attic Drachms*, — ——	= to	218	15	0
A *Babyloniſh Talent* in Gold = to 16 in Silver, ——— ——— ——	= to	3500	00	0

Babyloniſh Money, according to Dr. *Bernard*.

Babyloniſh Money.		*Britiſh Money.*		
		l.	*s.*	*d.*
A *Babyloniſh Talent* in Silver, ——— ——— ——	= to	240	12	6
A Babyloniſh Talent in Gold = to 16 in Silver, ——— ——— ——	= to	3850	00	0

Alexandrian Money.

Alexandrian Money.		*Britiſh Money.*		
		l.	*s.*	*d.*
A *Drachm* of *Alexandria* containing two *Attic Drachms*, as valued by the *Jews*, ————	= to	000	01	6

TABLE I.

Of Money, Continu'd.

		Britiſh Money.		
Alexandrian Money.		l.	s.	d.
A *Didrachm* of *Alexandria*, containing two *Alexandrian Drachms*, which was an *Hebrew Shekel*,	= to	000	03	0
Sixty *Didrachms*, or *Hebrew Shekels*, made a *Mina*,	= to	009	00	0
Fifty *Mina's* made a *Talent*,	= to	450	00	0
A *Talent* in Gold = to 16 in Silver,	= to	7200	00	0

		Britiſh Money.		
Roman Money.		l.	s.	d.
Four *Seſtercius's* made a *Roman Denarius*, or Penny,	= to	000	00	7½
Ninety-ſix *Roman Denarius's* made an *Italic Mina*, which was the ſame with a *Roman Libra*,	= to	003	00	0
Seventy-two *Roman Libra's* made a *Talent* of Silver,	= to	216	00	0

If any deſire a fuller Account of the *Money* of the Ancients, he may read Mr. *Brerewood de Ponderibus & Pretiis veterum Nummorum.*

TABLE II.

Of Time.

1.	*Niſan*,	March, April.
2.	*Zif*, or *Jair*,	April, May.
3.	*Sivan*,	May, June.
4.	*Thamuz*,	June, July.
5.	*Ab*,	July, Auguſt.
6.	*Elul*,	Auguſt, September.
7.	*Tizri*,	September, October.
8.	*Bull*, or *Marcheſuan*,	October, November.
9.	*Chiſleu*,	November, December.
10.	*Thebeth*,	December, January.
11.	*Shebeth*,	January, February.
12.	*Adar*,	February, March.

TABLE III.

Of Weights.

Hebrew Weights.		*Troy Weights.*			
		lb.	*z.*	*dw.*	*gr.*
An *Hebrew Drachm*, ——	= to	00	00	03	00
A *Beka*, or half *Shekel*, —— ——	= to	00	00	06	00
Two *Beka's*, or a *Shekel*, —— ——	= to	00	00	12	00
Sixty *Shekels*, or one *Mina*, ——	= to	03	00	00	00
Fifty *Mina's*, or one *Talent*, ——	= to	150	00	00	00

The following Tables are deduc'd from thoſe which are allow'd to be the moſt exact, inſerted in the *Index* to the large Bible, printed, *Anno* 1702. and compared with the *Meaſures* uſed in *Great-Britain*, by the Right Reverend *Richard*, Lord Biſhop of *Peterborough*.

TABLE IV.

Of Meaſures of Capacity.

Hebrew Meaſures of Capacity, compared with the Wine Meaſure in Great-Britain.

Hebrew Meaſure.		*Wine Meaſure.*		
		Gallons.	*Pints.*	*Inches.*
AN *Epha*, or *Bath*,—	= to	7	4	15
A *Chomer*, *Homer* in our Tranſlation,	= to	75	5	7
A *Seah*, $\frac{1}{3}$ of an *Epha*,—	= to	2	4	5
A *Hin*, $\frac{1}{6}$ of an *Epha*,—	= to	1	2	2.5
Omer, $\frac{1}{10}$ of an *Epha*,—	= to	0	6	1.5
Cab, $\frac{1}{18}$ of an *Epha*,——	= to	0	3	10.458
Log, $\frac{1}{72}$ of an *Epha*,——	= to	0	0$\frac{1}{2}$	9.83
Cotyla, Eaſtern, $\frac{1}{100}$ of an *Epha*, —— ——	= to	0	0$\frac{1}{2}$	3.04

This *Cotyla* contains juſt 10 Ounces, *Averdupois* of Rain-Water; the *Omer* 100, the *Epha* 1000, the *Homer* 10000 Ounces.

By theſe Weights, all theſe *Meaſures of Capacity* may be expeditiouſly recovered, very near to exactneſs.

TABLE

TABLE V.

Of Long Meaſure.

Hebrew Meaſure.		*Britiſh Meaſure.*		
		Yards.	*Feet.*	*Inches.*
A *Cubit*,	= to	000 :	1 :	9.888
A *Span*, the longer ½ of a *Cubit*,	= to	000 :	0 :	10.944
A *Span*, the ſhorteſt ⅓ of a *Cubit*,	= to	000 :	0 :	7.296
A *Hand's Breadth*, ⅙ of a *Cubit*,	= to	000 :	0 :	3.648
A *Finger's Breadth*, 1/24 of a *Cubit*,	= to	000 :	0 :	0.912
A *Fathom*, Four *Cubits*,	= to	002 :	1 :	3.552
Ezekiel's *Reed*, Six *Cubits*,	= to	003 :	1 :	11.328
A *Mile*, Four Thouſand *Cubits*,	= to	2432 :	0 :	0.0

* * *

TABLE VI.

Of Superficial Meaſure.

		Yards.	*Feet.*	*Inches.*
ONE Square *Cubit,*	= to	0	3	47.08
One *Egyptian Aroura,*	= to	3696	5	63.936

THE

STATE

Of the Greateſt

KING.

THE Hiſtories of the Lives and good Reigns of great and good Kings, being allowed by all wiſe Men to be ſome of the moſt profitable and pleaſant Hiſtories the World hath produced, I ſhall here endeavour to ſet forth in order the State of the greateſt King (and one of the beſt) that ever ſway'd a Scepter, *viz.* the Greatneſs of *SOLOMON*, and the Glory of his Reign; which, for any thing that I have heard or ſeen, was never done by any: And this, I preſume, will be beſt done by conſidering *SOLOMON*,

I. As being the Son of *David.*

II. As beloved of GOD.

III. As King of *Iſrael.*

IV. As Reigning in *Jeruſalem.*

V. The State of *Iſrael* and *Judah*, throughout his Reign.

VI. The State of the Country the *Jews* and *Iſraelites* poſſeſſed.

VII. The Royal Majeſty, and the great Wiſdom of *SOLOMON.*

VIII. His great Sacrifice he offer'd at the Dedication of the Temple.

IX. The great Reverence and Reſpect that was ſhew'd to him by many great Kings and Sovereign Princes; with the Honour the Queen of *Sheba* did him, and the many great and valuable Preſents made to him by them and her.

X. The State of his Houſhold.

XI. the daily Proviſion of his Family.

XII. His great Riches and Honour.

XIII. The great Multitude of his Chariot-Horſes.

XIV. The wonderful Houſes he built, and the other Works he made.

All

All which being well conſider'd, it will evidently appear, that neither the great *Nebuchadnezzar*, that famous Head of Gold, (*Daniel* ii. 38.) nor yet the Son of *Philip*, King of *Macedon*, and *Olympias*, viz. *Alexander*, the great Conqueror of Nations, nor any of the *Roman* Emperors, in all their Glory, were equal in Glory to *SOLOMON*.

Firſt, *SOLOMON* was the Son of *David*, King of *Iſrael*; A Man after GOD's own Heart; A Man of a beautiful Countenance, and goodly to look to; A Man prudent in Speech (as it is on the Margin) and a comly Perſon; A mighty valiant Man, and a Man of War: He was the greateſt Champion and Hero that ever ſway'd a Scepter; who ſubdu'd the *Philiſtines*, *Edomites*, *Amalekites*, *Moabites*, *Ammonites*, and *Syrians*, and planted Garriſons throughout all their Countries, and ſo extended his Kingdom to the utmoſt Bound of that Land which GOD had promiſed to the Seed of *Abraham*, and never poſſeſs'd wholly by any of them but *David* and *SOLOMON*, his Son, *Proverbs*, i. 1. 1 *Samuel* xiii. 14. and xvi. 12. 18. 2 *Samuel* viii. 1 *Chron.* xviii. *Geneſis* xv. 18. *Deuteronomy* xi. 24.

Secondly, *SOLOMON* was beloved of GOD, 2 *Samuel* xii. 24. The Name *SOLOMON* ſignifies *Peaceable*. He had that Name given him by GOD, becauſe he was to be a Man of Peace; and *Iſrael* was to enjoy Peace and Quietneſs all his Days, 1 *Chron.* xxii. 9. He was by GOD's Appointment likewiſe named *Jedidiah*, becauſe he was beloved of the LORD, 2 *Samuel* xii. 25.

Thirdly, *SOLOMON* was King of *Iſrael*; a People whom GOD had choſen for his peculiar Treaſure, and avouched to be his peculiar People.

ple. A People, that all the Nations under the whole Heavens fear'd and dreaded; for GOD was the Shield of their Help, and the Sword of their Excellency. A People high above all Nations, in Praiſe, and in Name, and in Honour, 2 *Chron.* ix. 29. *Pſalm* cxxxv. 4. *Deut.* xxvi. 18. xi. 25. xxxiii. 29. and xxvi. 19.

Fourthly, *SOLOMON* reigned (King) in *Jeruſalem*; the moſt admirable City in the World, both for Strength and Beauty. For Strength, the Kings that were aſſembled to look upon it are Witneſſes, who were ſo troubled and terrified therewith, that they haſted away in ſo much Fear and Pain as a Woman in Travail. And *Nebuchadnezzar*, King of *Babylon*, with the ſtrongeſt Army the World could afford, could not prevail againſt it, ſo as to take it in leſs than Eighteen Months; neither had he done it in that Time, if its Inhabitants had not been famiſhed. Likewiſe *Titus*, the Son of *Veſpaſian*, Emperor of the *Romans*, who, with an Army very much ſuperior to *Nebuchadnezzar*'s, both in Number and Strength, could not take it in a much longer Time; of which he was forc'd to acknowledge when he came within it, and look'd with Admiration upon its ſtrong Holds, and the Rocks and Towers; and ſeeing the height, firmneſs, bigneſs, and joining of the Stones, breadth and height, *Surely* (ſaid he) *GOD hath aſſiſted us in this War, he it was that drove out the Jews from their Fortreſſes; for how could Man's Hands and Engines prevail againſt ſuch Strength?* Pſalm xlviii. 4, 5, 6. 2 Kings xxv. 1, 2, 3. *Joſephus* on the Wars of the *Jews*, Book VII. Chap. 16.

For Beauty, it was call'd the *Perfection of Beauty*, *Pſalm* l. 2. *Lament.* ii. 15. *Joſephus* in his Preface to the Seven Books of the *Jewiſh* Wars, ſays of it, *Among all the Cities that ever was conquered by the Romans, our City only attained to the top of Felicity.*

This

This City of *Jeruſalem*, was an eminent Type, or Figure of the higheſt Heaven, where GOD hath his Throne, *Gal.* iv. 25, 26. *Pſal.* ciii. 19. This City was not only ſtrong and beautiful, but alſo a very large and great City, (whatever ſome Geographers in their Deſcription of it have ſaid to the contrary) that it was ſo, may be proved thus; That City muſt be a great City, that can give convenient Entertainment to upwards of Five Millions of Strangers at one and the ſame time; but *Jeruſalem* did ſo frequently, therefore it was a very great City; that it did ſo, is thus proved; All the People of *Iſrael*, Men, Women, and Children, and the Strangers that ſojourned among the *Iſraelites*, and were circumciſed, they with their Families, were to keep the Feaſt of the Paſſover, and the Feaſt of unleavened Bread annually; from which, if any (without a very urgent Neceſſity) were abſent, they were to ſuffer the ſevere Penalty of being cut off from the Congregation of the LORD: Theſe two Feaſts laſted always ſeven Days, in which Time no manner of Work was to be done, ſave that which every one was to eat: This Feaſt began always on the Fourteenth Day of the Firſt Month, at Even, and continued till the Twenty-firſt Day of the ſame Month, at Even; and was always kept at one Place, and that was *Jeruſalem*, after the Temple was finiſhed, *Exod.* xii. and xiii. *Deut.* xvi. And that the Number of thoſe that did eat the Paſſover, and the Feaſt of unleavened Bread, was above Seven Millions, will thus appear; When *Joab*, at the King's Command, numbered the Men among the *Iſraelites* that drew the Sword, and were fit for War, One Million, Five Hundred and Seventy Thouſand, was their Number, in which there was not any of the Tribe of *Levi* or *Benjamin*, 1 *Chron.* xxi. 5, 6. Suppoſe there was but the Tenth Part of the Men fit for War in the two Tribes

Tribes that were not numbered, that there was in the Ten Tribes that were numbered, that Tenth Part will be One Hundred and Fifty-ſeven Thouſand; which added to the Number in the Ten Tribes, the Sum will be One Million, Seven Hundred and Twenty-ſeven Thouſand; and ſo many Men there was fit for War in *Iſrael* in *David's* Time, and their Number was much greater in the Reign of *SOLOMON.*

Now, the Men that are fit for War in any Kingdom, are not the Sixth Part of the People in that Kingdom; and ſo the Number of the *Iſraelites,* in *SOLOMON's* Reign, is found to have been above Eleven Millions: Now, ſuppoſe Two Millions of that Number to be Inhabiters of *Jeruſalem,* (which is as many as, I believe, any City of *Europe* can boaſt of) the reſt I reckon Strangers, which were Nine Millions; ſuppoſe Four Millions of that Number, through ſome Neceſſity or another to be detain'd or kept from the Feaſt of the Paſſover and unleavened Bread, yet there was upwards of Five Millions of them, beſides a Multitude of other Strangers that were Proſelites, and lived in other Kingdoms, that came and kept the Feaſt in *Jeruſalem,* and found convenient Entertainment there, therefore *Jeruſalem* was a very great City.

Fifthly, The State of *Iſrael* and *Judah* throughout the Reign of *SOLOMON:* And Firſt, Of the *Prieſts* and *Levites* Charge, and Portion, *Numbers* xviii.

And the LORD *ſaid unto* Aaron, *Thou and thy Sons, and thy Father's Houſe with thee, ſhall bear the Iniquity of the Sanctuary; and thou and thy Sons with thee, ſhall bear the Iniquity of your Prieſthood.*

And

And thy Brethren alſo of the Tribe of Levi, *the Tribe of thy Father, bring thou with thee, that they may be joined unto thee, and miniſter unto thee; but thou and thy Sons with thee ſhall miniſter before the Tabernacle of Witneſs.*

And they ſhall keep thy Charge, and the Charge of all the Tabernacle; only they ſhall not come nigh the Veſſels of the Sanctuary, and the Altar, that neither they, nor you alſo die.

And they ſhall be joined unto thee, and keep the Charge of the Tabernacle of the Congregation, for all the Service of the Tabernacle; and a Stranger ſhall not come nigh unto you.

And ye ſhall keep the Charge of the Sanctuary, and the Charge of the Altar, that there be no Wrath any more upon the Children of Iſrael.

And I, behold, I have taken your Brethren the Levites *from among the Children of* Iſrael; *to you they are given as a Gift from the* LORD, *to do the Service of the Tabernacle of the Congregation.*

Therefore thou and thy Sons with thee, ſhall keep your Prieſts Office for every thing of the Altar, and within the Vail, and ye ſhall ſerve: I have given your Prieſts Office unto you, as a Service of Gift; and the Stranger that cometh nigh, ſhall be put to death.

And the Lord ſpake unto Aaron, *Behold, I alſo have given thee the Charge of mine Heave-Offerings, and of all the hallowed Things of the Children of* Iſrael; *unto thee have I given them by reaſon of the Anointing, and to thy Sons by an Ordinance for ever.*

This ſhall be thine of the moſt holy Things, reſerved from the Fire; every Oblation of theirs, every Meat-Offering of theirs, and every Sin-Offering of theirs, and every Treſpaſs-Offering of theirs, which they ſhall render unto me, ſhall be moſt holy for thee, and for thy Sons.

In the moſt holy Place ſhalt thou eat it; every Male ſhall eat it: It ſhall be holy unto thee.

And

And this is thine; the Heave-Offering of their Gift, with all the Wave-Offerings of the Children of Iſrael: *I have given them unto thee, and to thy Sons, and to thy Daughters with thee, by a Statute for ever; every one that is clean in thy Houſe, ſhall eat of it.*

All the beſt of the Oyl, and all the beſt of the Wine, and the Wheat, the firſt Fruits of them, which they ſhall offer unto the LORD, *them have I given thee.*

And whatſoever is firſt ripe in the Land, which they ſhall bring unto the LORD, *ſhall be thine; every one that is clean in thine Houſe, ſhall eat of it.*

Every Thing devoted in Iſrael *ſhall be thine.*

Every Thing that openeth the Matrice in all Fleſh, which they bring unto the LORD, *whether it be of Men or Beaſts, ſhall be thine; nevertheleſs the firſt-born of Man ſhalt thou ſurely redeem, and the firſtling of Unclean Beaſts ſhalt thou redeem.*

And thoſe that are to be redeemed, from a Month old, ſhalt thou redeem, according to thine Eſtimation, for the Money of five Shekels, after the Shekel of the Sanctuary, which is twenty Gerahs.

But the firſtling of a Cow, or the firſtling of a Sheep, or the firſtling of a Goat, thou ſhalt not redeem, they are holy; thou ſhalt ſprinkle their Blood upon the Altar, and ſhalt burn their Fat for an Offering made by Fire, for a ſweet Savour unto the LORD.

And the Fleſh of them ſhall be thine, as the Wave-Breaſt, and as the right Shoulder are thine.

All the Heave-Offerings of the holy Things, which the Children of Iſrael *offer unto the* LORD, *have I given thee, and thy Sons, and thy Daughters with thee, by a Statute for ever; it is a Covenant of Salt for ever, before the* LORD *unto thee, and thy Seed with thee.*

And the LORD *ſpake unto* Aaron, *Thou ſhalt have no Inheritance in their Land, neither ſhalt thou have any part among them: I am thy part, and thine Inheritance among the Children of* Iſrael.

And

And behold, I have given the Children of Levi *all the Tenth in* Iſrael *for an Inheritance, for their Service which they ſerve, even the Service of the Tabernacle of the Congregation.*

Neither muſt the Children of Iſrael *henceforth come nigh the Tabernacle of the Congregation, leſt they bear Sin, and die.*

But the Levites *ſhall do the Service of the Tabernacle of the Congregation, and they ſhall bear their Iniquity: It ſhall be a Statute for ever throughout your Generations, that among the Children of* Iſrael *they have no Inheritance.*

But the Tithes of the Children of Iſrael *which they offer as an Heave-Offering unto the LORD, I have given the* Levites *to inherit, therefore I have ſaid unto them, Among the Children of* Iſrael *they ſhall have no Inheritance.*

And the LORD ſpake unto Moſes, *ſaying, Thus ſpake unto the* Levites, *and ſay unto them, When ye take of the Children of* Iſrael *the Tithes which I have given you from them for your Inheritance, then ye ſhall offer up an Heave-Offering of it for the LORD, even a Tenth Part of the Tithe.*

And this your Heave-Offering ſhall be reckoned unto you, as though it were the Corn of the Threſhing-floor, and as the fulneſs of the Wine-preſs.

Thus you alſo ſhall offer an Heave-Offering unto the LORD, of all your Tithes which ye receive of the Children of Iſrael; *and ye ſhall give thereof the LORD's Heave-Offering to* Aaron *the Prieſt.*

Out of all your Gifts ye ſhall offer every Heave-Offering of the LORD, of all the beſt thereof, even the hallowed part thereof, out of it.

Therefore thou ſhalt ſay unto them, When ye have heaved the beſt thereof from it, then it ſhall be counted unto the Levites, *as the increaſe of the Threſhing-floor, and as the increaſe of the Wine-preſs.*

And

And ye ſhall eat of it in every place, ye and your Houſholds; for it is your Reward for your Service in the Tabernacle of the Congregation.

And ye ſhall bear no Sin by reaſon of it, when ye have heaved from it the beſt of it; neither ſhall ye polute the holy Things of the Children of Iſrael, *leſt ye die.*

Beſides what is mentioned, the *Levites* had Forty and Eight Cities given them (by the Command of GOD) to dwell in, *Numbers* xxxv. and above Three Hundred and Five *Engliſh* Acres and a half of Glebe-Land to each City, which was to be in the midſt of the Land belonging to it. This Land in our Tranſlation is call'd *Suburbs*, becauſe of the nearneſs to their Cities; but we muſt not thence imagine that it means Houſes and Streets adjoining to their Cities, in which Senſe we often uſe the word *Suburbs*. For *Moſes* plainly tells us they were Places for their Cattle, and for their Goods, and for all their Beaſts, to feed in; ſuch as might alſo be Orchards or Gardens for Fruits, or perhaps for a little Corn, comprehended in the word their *Goods*. Theſe Fields he limits by a Thouſand Cubits.

But 'tis certain, that Cattle cannot feed on meer Length, where there is not any Breadth; but this muſt ſignify the ſide of ſome Surface of Land, bounded with a Thouſand Cubits, and there muſt be two ſides of that Surface given before the Area or Superficial-Content can be found. Therefore *Moſes* in the fifth Verſe tells them, that on each ſide of each City they muſt meaſure Two Thouſand Cubits; on the Eaſt-ſide, Two Thouſand Cubits; and on the South-ſide, Two Thouſand Cubits; and on the Weſt-ſide, Two Thouſand Cubits; and on the North-ſide, Two Thouſand Cubits; which will determine no Surface, unleſs we underſtand it to mean the two ſides of a Square,

bounded

bounded on every ſide by a Thouand Cubits: Theſe two ſides Multiplied into one another will produce a Square that contains juſt a Million of ſquare Cubits, = to an Hundred *Egyptian Auroræ*, by which their Land was as generally meaſured, as ours is by Acres, as appears by *Herodotus Euterpe*, Lib. II. *Chap.* 168. And therefore it's believ'd that *Moſes*, who was learned in all the Wiſdom and Learning of the *Egyptians*, Acts vii. 22. (eſpecially the Mathematicks, and no doubt in that Branch we call Surveying) did of choice make the Court of the Tabernacle to be half an *Auroræ*, which was a known Meaſure to him and his People, who had long dwelt in *Egypt*, and Divine Authority directed him ſo to do.

To know how many Engliſh *Acres are contain'd in any Number of ſquare Cubits,*

The RULE is,

Multiply the Square-Cubits *by* 3.32694 *(the* Square-Feet *and* Parts *of a* Foot in *one* Square-Cubit) *the* Product *will be* Square-Feet: *Divide the* Product *by* 43560 *(the* Square-Feet *in a* Square-Acre) *and the* Quotient *will be* Acres.

But the Operation will be more Brief in this Example, if 3.32694 be Multiplied by 1000000 (the Number of Square-Cubits in 100 *Egyptian Auroræ*, or the Number of Square-Cubits in the Glebe-Land on each of the four ſides of each of the *Levitical* Cities) and the Product will be 3326940.00000 Square-Feet; which divide by 43560, the Quotient will be 76.376033, the *Engliſh* Acres, and parts of an Acre, on one ſide of each of the *Levitical* Cities, = to 76 Acres, 1 Rood, 20 Perches, 4 Yards, 8 Feet, 143 Inches.

Multiply 76.376033 by 4, the Product will be 305.504132; *i. e.* 305 *Engliſh* Acres, 2 Roods, 19 Yards, 8 Feet, and 142 Inches; and ſo much Glebe-Land the *Levites* had joining to each of their Cities.

Now, if 305.504132 be multiplied by 48 (the Number of the *Levitical* Cities) the Product will be 14664.198336, *i. e.* 14664 *Engliſh* Acres, 31 Perches, *&c.* which is the Quantity of Land that did belong to all the *Levitical* Cities.

What I have written is the beſt and trueſt Account that can be given of the *Prieſts* and *Levites* Charge and Portion, not only in the Tabernacle, in the Reigns of *Saul* and *David*, and in the Time of the Judges, but likewiſe in the Temple throughout the whole Reign of *Solomon*. It now followeth to give an Account of the State of the reſt of the People throughout his Reign.

His Subjects in *Iſrael* and *Juda* were many, even as the Sand which is by the Sea in multitude, eating and drinking, and making merry; abounding with Plenty of all good Things; with whom Gold was ſo plentiful, that Silver was not any thing accounted of with them in the Days of *Solomon*, for he made that to be in *Jeruſalem* as Stones, for abundance; all which his Subjects enjoy'd, not only plentifully, but peaceably: *For Juda and Iſrael dwelt ſafely, every Man under his Vine, and under his Fig-tree, from Dan even to Beerſheba, all the days of Solomon*, 1 Kings iv. 20. 2 Chron. ix. 20. 1 Kings x. 27. and iv. 25.

Sixthly, The State of the Country the *Jews* and *Iſraelites* poſſeſſed in the Reign of *SOLOMON*, and that was the Land of *Canaan* (which was *the Lot of their Inheritance) the promis'd Land, the pleaſant Land, the glorious Land, the glory of all Lands, a Land flowing with Milk and Honey, a good Land, a Land of Brooks of Water, of Fountains, and Depths that ſpring* *out of Vallies and Hills; a Land of Wheat and Barly, and Vines and Fig-trees, and Pomegranates; a Land of Oyl-olive and Honey; a Land wherein the Inhabitants did eat Bread without ſcarcity, and did not lack any thing in it; a Land whoſe Stones were Iron, and out of whoſe Hills, Braſs might be digged; a Land which the* LORD *God cared for, upon which his Eyes were from the beginning of the Year unto the end; a Land wherein there were very near as many* fortified Cities, Towns, and Caſtles, as there are in all the Kingdoms of *Europe*, if not more: One half Tribe (*viz.* the half Tribe of *Manaſſeh*) had no leſs than *Sixty Cities fenced with high Walls, Gates, and Bars, beſides unwalled Towns a great many.* And this half Tribe had many more that I do not mention, *Pſalm* cv. 11. cvi. 24. *Daniel* xi. 16. *Ezekiel* xx. 6. *Deut.* vi. 3. *and* viii. 7, 8, 9. *and* ii. 12. *and* iii. 3, 4, 5, 13, 14.

Beſides *Pomegranates*, which are known to be healthful and preſervative, this good Land abounded with many Aromatical-Trees, as *Camphire*, or *Cypreſs*, having Berries within his white Flower, ſweet, pleaſant and very fragrant, *Plin.* Lib. XII. Chap. 14. and grow beſt in Vineyards, of which there was great plenty at *Engedi*, Canticles i. 14. They that talk here of the Iſland of *Cyprus*, are as far from the true Senſe, as that Iſland is from *Engedi*, which was a Place in the Land of *Canaan*, in the Tribe of *Judah*, near unto the Dead-Sea. Hither fled *David* one Time, when *Saul* purſued him; and here *Jehoſaphat* had a notable Victory over his Enemies, 2 *Chron.* xx.

There was likewiſe growing in *Jury*, great plenty of *Spikenard*, *Calamus*, and *Myrrh*. See *Pliny*, Lib. XII. Chap. 11. King *Solomon made Gardens and Orchards, and planted Trees in them of all kind of Fruits*, Eccleſ. ii. 5.

Tho' this was a moſt bleſſed Land, eſpecially in the Reign of King *Solomon*; and yet then it was not without ſome Inconveniences, which threatned the Inhabitants in ſome parts of it with much Danger, as may be gathered from many places of Scripture; eſpecially from *Canticles* iv. 8. where the Church is kindly invited to come from *Lebanon*, to look from the top of *Amana*, from the top of *Shenir* and *Hermon*, from the Lions Dens, from the Mountains of the Leopards. *Strabo* (in *Lib.* XIV.) ſaith, That *Amana* (or *Abanah*, as the River running under it was called, 2 *Kings* v. 12.) was a Mountain forcibly poſſeſſed by many Tyrants; *Shenir* and *Hermon* were haunted with wild and ravening Beaſts, even *Lebanon* alſo, 2 *Kings* xiv. 9. though otherwiſe a pleaſant and plentiful Place, *Deut.* iii 25. yea, paſſing pleaſant, by reaſon of the odoriferous, and ſweet-ſmelling Trees, that grew there, *Canticles* iv. 11.

Seventhly, The Royal Majeſty, and the great Wiſdom of *SOLOMON*. *The LORD magnified Solomon exceedingly in the ſight of all Iſrael*, and beſtowed upon him ſuch Royal Majeſty as had not been on any King before him. *God gave him a wiſe and an underſtanding Heart, ſo that there was none like him before him, neither after him ſhall ariſe any like to him. God gave Solomon Wiſdom and Underſtanding exceeding much, and largeneſs of Heart, even as the Sand that is on the Sea-ſhoar. His Wiſdom exceeded the Wiſdom of all the Children in the Eaſt-Country, and all the Wiſdom of Egypt*, (which at that Time, and long before, was one of the moſt learned and polite Kingdoms in the World) *for he was wiſer than all Men, and his Fame was in all Nations round about. And there came of all People to hear the Wiſdom of Solomon, from all the Kings of the Earth, which had heard his Wiſdom*, 1 Chron. xxix. 25. 1 Kings iii. 12. and iv. 29, 30, 31, and 34. *He ſpake three Thouſand Proverbs*;

verbs; and his Songs were a Thouſand and five. And he ſpake of Trees, from the Cedar-tree that is in Lebanon, even unto the Hyſſop that ſpringeth out of the Wall: He ſpake alſo of Beaſts, and of Fowl, and of creeping Things, and of Fiſhes, 1 Kings iv. 32, 33.

I ſhall not mention any Act of his Wiſdom taken from Holy Scripture, ſave that recorded in the Firſt Book of *Kings*, Chap. iii. from the ſixteenth Verſe to the end; which was his determining the difference, and giving true Judgment between two Harlots, that contended about a living and a dead Child; whereby he diſcovered the true Mother (when none elſe could) and commanded the living Child to be given to her, which was ſuch an admirable Act of his wiſe Judgment, as made all *Iſrael* to fear the King, and himſelf to be greatly renowned, and raiſed Admiration in all wiſe People that heard thereof.

If the Reader deſires to know more of the Wiſdom of *Solomon*, he may read his Books of *Proverbs*, and *Eccleſiaſtes*, which deſerve to be writ with Characters of the fineſt Gold; likewiſe the ſecond Chapter of the Eighth Book of the Antiquities of the *Jews*, written by *Flavius Joſephus*, who gives the following Relation of *Solomon*, *viz.* “He compoſed “Five Thouſand Books of Odes and Songs, and “Three Thouſand Books of Parables and Similitudes, beginning from the Hyſſop unto the Cedar. “The like did he of all living Creatures that feed “on the Earth, ſwim in the Waters, or fly in the “Air; for none of their Natures was he ignorant “of; neither had he omitted to ſearch after their “~~their~~ Qualities in particular, and diſcourſed of “them all, and had Knowledge of their ſeveral and “ſecret Properties.

Eighthly, The great Sacrifice *SOLOMON* offered at the Dedication of the Temple. *At the Dedication of the Temple, Solomon offer'd to God a Sacrifice of Twenty-two Thouſand Oxen, and an Hundred and Twenty Thouſand Sheep*, 2 Chron. vii. 5.

Ninthly, The great Reverence and Reſpect that was ſhew'd to *SOLOMON* by many great Kings and Sovereign Princes, with the Honour the Queen of *Sheba* did him, and the many great and valuable Preſents made to him by them and her. *All the Kings of the Earth ſought the Preſence of Solomon to hear his Wiſdom that God had put in his Heart. And they brought every Man his Preſent, Veſſels of Silver and Veſſels of Gold and Raiment, Harneſs, and Spices, Horſes and Mules, a Rate, Year by Year*, 2 Chron. ix. 23, 24.

And when the Queen of Sheba had heard of the Fame of Solomon, concerning the Name of the LORD, *ſhe came to prove him with hard Queſtions. And ſhe came to Jeruſalem with a very great Train, with Camels that bear Spices, and very much Gold, and precious Stones: And when ſhe was come to Solomon, ſhe communed with him of all that was in her Heart. And Solomon told her all her Queſtions, there was not any thing hid from the King which he told her not.*

And when the Queen of Sheba had ſeen all Solomon's Wiſdom, and the Houſe that he had built, and the Meat of his Table, and the ſitting of his Servants, and the Attendance of his Miniſters and their Apparel, and his Cup-bearers, and his Aſcent by which he went up unto the Houſe of the LORD; *there was no more Spirit in her.* And ſhe ſaid to *the King, it was a true Report that I heard in mine own Land, of thy Acts, and of thy Wiſdom. Howbeit, I believed not the words until I came, and mine Eyes had ſeen it; and behold, the half was not told me, thy Wiſdom and Proſperity exceeds the Fame which I heard.*

Happy are thy Men, happy are theſe thy Servants, which ſtand continually before thee, and hear thy Wiſdom. Bleſſed be the LORD *thy God which delighted in thee, to ſet thee on the Throne of Iſrael; becauſe the* LORD *loved Iſrael for ever, therefore made he thee King to do Judgment and Juſtice. And ſhe gave the King an Hundred and twenty Talents of Gold, and of Spices very great ſtore, and precious Stones; there came no more ſuch abundance of Spices as theſe which the Queen of Sheba gave to King Solomon,* 1 Kings x. from the beginning to the 11th Verſe.

And King Solomon gave unto the Queen of Sheba all her Deſire, whatſoever ſhe asked, beſides that which Solomon gave her of his Royal Bounty; ſo ſhe returned and went to her own Country, ſhe and her Servants, 1 Kings x. 13.

Before the Value of the Hundred and twenty Talents of Gold which the Queen of *Sheba* gave to King *Solomon* can be found in Sterling Money, at the rate the Gold in *Great-Britain* is now valued at, which is 21 *s.* the Guinea, this muſt be premiſed, *viz.* that the Reverend and moſt Learned Doctor *Prideaux*, Dean of *Norwich*, in his Valuation of a Talent of Gold, makes it 16 times the preſent Value of a Talent of Silver; and, according to that Valuation, 1 Pound-weight of pure Gold is only = in Value to 16 Pound-weight of Silver that has 18 *dw.* of Allay in each Pound-weight of it, and ſo the Gold is 4 *l.* an Ounce, which indeed is the preſent Value of an Ounce of pure Gold; but for as much as the Standard for the Gold-Coin of *Great-Britain* is 22 Carracts fine, *i. e.* the twelfth part of every Ounce of it is Allay, and ſo an Ounce of it is of leſs Value than 4 *l.* Sterling.

The beſt way to find the preſent Value of 1 z. or any other Quantity, is by the Rule of Three Direct Proportion, to ſay, *As* 5 *dw.* 9 *gr.* : 21 *s.* :: 1 *z.* : 78.1394 *s.*

Note, 5 *dw.* 9 *gr.* is the exact Weight of one Guinea. And as 5 *dw.* 9 *gr.* is in Proportion to 21 *s.* ſo is 1 *z.* Troy-Weight, in Proportion to 78.1394 *s.* i. e. 3 *l.* 18 *s.* $1\frac{2}{3}$ *d.* Sterling; and ſo much 1 *z.* Troy, of the coin'd Gold of *Great-Britain* is worth, at the rate of 21 *s.* the Guinea: But a Crown, which is 1 *z.* Troy-Weight, is better worth 5 *s.* Sterling, than an Ounce of the Gold-Coin of *Great-Britain* is worth 3 *l.* 18 *s.* $1\frac{2}{3}$ *d.* Sterling, becauſe $\frac{1}{12}$ of the Gold-Coin is Allay, and there is not ſo much in the Silver-Coin.

Now to find the preſent Value of any Number of *Hebrew* Talents of Gold, this is

The RULE.

Multiply 78.1394 *s.* (the preſent Value of an Ounce Troy of the Gold-Coin of *Great-Britain) by* 1800 *z.* Troy *(the Weight of a* Hebrew *Talent) and the Product will be the Value of that Talent in Shillings Sterling, or in Shillings and part of a Shilling Sterling, then multiply the Product by the Number of Talents, the next or ſecond Product will be the Value of all the Talents in Shillings Sterling, or in Shillings and part of a Shilling Sterling: Divide the ſecond Product by* 20 *(the Shillings in the Pound Sterling) and the Quotient will be the preſent Value of all the Talents in Pounds Sterling, or in Pounds Sterling and part of a Pound Sterling. And ſo the preſent Value of the Hundred and twenty Talents of Gold which the Queen of* Sheba *gave to King* Solomon, *will be found to be* 843905.52 *l.* i. e. *Eight-hundred, Forty-three Thouſand, Nine-hundred and five Pounds, Ten-ſhillings and Four-pence three Farthings*, Sterling.

For

For if 78.1394 *s.* be multiplied by 1800 *z.* the Product will be 140650.92 *s.* which multiplied by 120, the next Product will be 16878110.40 *s.* which divided by 20 *s.* the Quotient will be 843905.52 *l.* = to 843905 *l.* 10 *s.* 4 *d.* ¾ *q.* Sterling.

Tenthly, The State of King *SOLOMON*'s Houſehold was ſo admirable, that the Queen of *Sheba* (who by the very great Train ſhe brought with her to *Jeruſalem*, and by the large and valuable Preſents ſhe made to *Solomon*, appears to have been a very great Queen, and no doubt but the State of her Houſhold was very great and Royal, and her Kingdom, or Kingdoms, rich and flouriſhing) when ſhe had ſeen the Houſe he had built for himſelf, and the Meat of his Table, and the ſitting of his Servants, and the Attendance of his Miniſters and their Apparel, and his Cupbearers, and his Aſcent by which he went up into the Houſe of the LORD, with his great Wiſdom that ſhin'd forth in all theſe, her Admiration was rais'd to ſo high a degree, that her Spirits, with much difficulty, were kept from ſinking within her.

All the drinking Veſſels of Solomon were of Gold, and all the Veſſels of the Houſe of the Foreſt of Lebanon were of pure Gold; none were of Silver, it was not any thing accounted of by Solomon, 2 Chron. ix. 20.

King Solomon made a great Throne of Ivory, and overlaid it with pure Gold. And there were ſix Steps to the Throne, with a Foot-ſtool of Gold, which were faſtned to the Throne, and Stays on each ſide of the ſitting Place, and two Lions ſtanding by the Stays. And twelve Lions ſtood there on the one ſide and on the other, upon the ſix Steps. There was not the like made in any Kingdom, 2 Chron ix. 17, 18, 19.

This

This Throne ſeems to have been placed in *Solomon's* Houſe, and, 'tis very likely, was among the many admirable Things that the Queen of *Sheba* ſaw there, for the Targets and Shields of beaten Gold, and it, are mention'd immediately after the Relation is made of her, 1 *Kings* x.

King Solomom made Two-hundred Targets of beaten Gold; Six-hundred Shekels of beaten Gold went to one Target, 2 Chron. ix. 15.

King Solomon made likewiſe Three-hundred Shields of beaten Gold; Three-hundred Shekels of Gold went to one Shield, 2 Chron. ix. 16.

To find the Value of Two-hundred Targets, I conſider that one Target is $\frac{1}{5}$ of the Weight of a Talent; for a Talent is 3000 Shekels, and a Target is but 600, which is the fifth of 3000, therefore one of the Targets of Gold is but $\frac{1}{5}$ the Value of a Talent of Gold, and ſo this will be

The RULE.

Divide 140650.92 (*i. e.* the Shillings Sterling that are = to one Talent of Gold) *by* 5, *the* Quotient *will be* 28130.184 *s.* (*i. e.* the Value of one Target) *which multiply by* 200, (the Number of the Targets) *the* Product *will be the Value of the* 200 *Targets in Shillings Sterling: Divide the* Product *by* 20 *s. the* Quotient *will be the Value of the* 200 *Targets in Pounds and part of a Pound Sterling*, viz. 281301.84 *l.* = *to* 281301 *l.* 16 *s.* 9 $\frac{1}{2}$ *d.* See the Operation following.

Example.

Example.

5) 140650.920 *s.* = *to one Talent of Gold.*

Quotient 28130.184 *s.* = *to one Target of Gold.*
200 *Targets.*

Product 5626036.800 *s.* = *to* 200 *Targets.*

20) 5626036.80 *s.*

Quotient 281301.84 *l.* = *to* 281301 *l.* 16 *s.* 9½ *d.*

To find the Value of the 300 Shields of Gold, each containing 300 Shekels, = to ½ of a Target.

The RULE is,

Multiply 14065.092 *s.* (*i. e.* the Value of one Shield, = to half the Value of one Target) *by* 300, (the Number of Shields) *the* Product *will be the Value of the* 300 *Sheilds in Shillings and part of a Shilling Sterling: Divide the* Product *by* 20, *the* Quotient *will be the Pounds and part of a Pound Sterling that are = in Value to the* 300 *Shields*, viz. 210976.38 *l.* = *to* 210976 *l.* 7 *d.* See the Operation following.

Example.

14065.092 *s. the Value of one Shield.*
300 *Shields.*
Product 4219527.600 *s.* = *to* 300 *Shields.*

20) 4219527.600 *s.*

Quotient 210976.38 *l.* = *to* 210976 *l.* 7 *s.* 7 *d.*

Eleventhly,

Eleventhly, The daily Proviſion of King *SOLOMON*'s Family.

There is a Meaſure mentioned in the Firſt Book of *Kings*, Chap. iv. 22. call'd *Quarters* in the old Tranſlation of the *Engliſh* Bible, printed *Anno* 1574. and on the Margin, the *Latin* word for that Meaſure is *Corus*, a Meaſure that containeth 15 Buſhels: But in one of the beſt *Latin* Dictionaries, *viz.* Dr. *Littleton*'s, *Corus* is call'd an *Hebrew* Meaſure, containing 30 Buſhels, which is a Camel's Burden: But neither the Buſhels on the Margin of the old Tranſlation, or in the Dictionary, muſt be underſtood to be *Wincheſter* Buſhels; for no Camel is able to carry 15 ſuch Buſhels of Wheat, none of them being much abler for a Burthen than the ſtrongeſt of our Horſes; beſides, in the Dictionary it's ſaid to contain 10 Epha's, or 30 Seahs; therefore 'tis a Homer, for a Homer contains 10 Epha's exactly, and 1 Epha contains exactly 3 Seahs: So God commands, *Ezekiel* xlv. 11. and ſo it is in Table IV. p. 36.

This being premiſed, it will not be difficult to find how many *Wincheſter* Buſhels are contained in the 30 Meaſures of fine Flower, and 60 Meaſures of Meal, or Flower not ſo fine, that was provided every Day for King *Solomon*'s Family, 1 *Kings* iv. 22. For which purpoſe this is

The RULE.

Multiply 17475 (the ſolid Inches in one *Homer*; or *Meaſure*) *by the* 30 *Meaſures, the* Product *will be the ſolid Inches in the* 30 *Meaſures: Divide the* Product *by* 2150 (the ſolid Inches in the *Wincheſter* Buſhel) *and the* Quotient *will be the* Wincheſter *Buſhels in the* 30 *Meaſures, or the Buſhels and part of a*

Buſhel in the 30 *Meaſures,* viz. 243.837 *Buſhels, = to* 243 *Buſhels,* 3 *Pecks,* 2 *Corn-Quarts,* 1 ½ *Pint: Multiply the* Quotient *by* 2, *and the* Product *will be the Buſhels and part of a Buſhel in the* 60 *Meaſures,* viz. 487.674 *Buſhels, = to* 487 *Buſhels,* 2 *Pecks,* 1 *Corn-Gallon,* 1 *Quart,* 1 *Pint, and a little more: Add the* Quotient *and* Product *together, and the Sum will be* 731.511 *Buſhels,* Wincheſter-*Meaſure,* i. e. 731 *Buſhels,* 2 *Pecks.* See the following Operation.

Example.

17475 *Solid Inches in one Homer, or Meaſure.*
30 *Meaſures, or Homers.*

Product 524250 *Solid Inches in* 30 *Meaſures, or Homers.*

2150) 524250 (243.837 *Wincheſter Buſhels in* 30 *Meaſures.*
2

Product 487.674 *Buſhels in* 60 *Meaſures.*

Sum of the Quotient and Product } 731.511 { *The Buſhels in* 90 *Meaſures, = to* 731 *Wincheſter Buſhels,* 2 *Pecks; which, with* 10 *fat Oxen, and* 20 *Oxen fed in Paſtures, and* 100 *Sheep, beſides Harts and Roe-Bucks, and fallow Deer, and fatted Fowl* (mentioned in 1 *Kings* iv. 23.) was a ſufficient daily Allowance for Thirty Thouſand People; and yet no more than a ſuitable Allowance for the Family of ſo great, ſo glorious, and ſo wiſe a King as *Solomon* was.

By this Rule, the Twenty Thouſand Meaſures of Wheat (mentioned in 1 *Kings* v. 11.) which King *Solomon* gave annually to *Hiram*, King of *Tyre*, for Food for his Houſhold, is found to be One-hundred and Sixty-two-thouſand, Five-hundred and Fifty-eight Buſhels, one Corn-Gallon, and one Pint very

very near: And the Twenty Thouſand Meaſures of beaten Wheat, and Twenty Thouſand Meaſures of Barley (mentioned in 2 *Chron.* ii. 10.) which *Solomon* gave to the Servants of *Hiram*, King of *Tyre*, that cut Timber for him, are each One-hundred and Sixty-two-thouſand, Five-hundred and Fifty-eight Buſhels, one Corn-Gallon, and one Pint very near.

Twelfthly, *SOLOMON*'s great Riches and Honour.

God ſays to *Solomon*, *I will give thee Riches, and Wealth, and Honour, ſuch as none of the Kings have had, that have been before thee, neither ſhall there any after thee have the like*, 2 Chron. i. 12.

As for King *Solomon*'s Riches, no exact Account can be given of them, but a reaſonable Computation may be made.

He paſſed all the Kings of the Earth in Riches and Wiſdom, 2 Chron. ix. 22.
The weight of Gold that came to Solomon in one Year, was ſix hundred ſixty ſix Talents, beſides that he had of the Merchantmen, and of the Traffick of the Spice-Merchants, and of all the Kings of Arabia, and of the Governours of the Countries, 1 Kings x. 14, 15.

The 666 Talents of Gold is found (by the Rule aforegoing for finding the Value of Talents of Gold in Sterling Money) to be 4683675 *l.* 12 *s.* 8½ *d.* Sterling.

The Servants of Hiram, King of Tyre, and the Servants of Solomon, brought Solomon much Gold from Ophir, and great plenty of Almug-trees and precious Stones. And the King made of the Almug-trees, Terriſes and Pillars for the Houſe of the LORD, and for the King's Palace, and Harps and Pſalteries for Singers; and there were

were none ſuch ſeen before in the Land of Judah, 2 Chron. ix. 10, 11. 1 Kings x. 11, 12.

At one time his Fleet brought him from Ophir four hundred and fifty Talents of God, 2 Chron. viii. 18.

Four Hundred and Fifty Talents of Gold is = to 3164645 *l.* 14 *s.* At another time his Fleet brought him from *Ophir*, Four Hundred and Twenty Talents (1 *Kings* ix. 28.) = to 2953669 *l.* 6 *s.* 4 ¾ *d.* Beſides what his Fleet brought him from *Tarſhiſh*.

For the Kings Ships went to Tarſhiſh with the Servants of Hiram; every three Years once came the Ships of Tarſhiſh, bringing Gold, and Silver, Ivory, and Apes, and Peacoks, 2 Chron. ix. 21.

And *Hiram* ſent to the King an Hundred and Twenty Talents of Gold (1 *Kings* ix. 14.) = to 843905 *l.* 10 *s.* 4 ¾ *d.* Sterling.

If *David*, who reign'd but 33 whole Years over all *Iſrael* and *Judah*, (2 *Samuel* v. 5.) that is, 12053 Days, allowing 8 Leap-Years to be in the 33, laid up 1177502238 Pounds Sterling in that Time, which is 97693 *l.* 14 *s.* 1 *d.* each Day, throughout the 33 Years.

That *David* did lay up 1177502238 Pounds Sterling, ſhall be proved afterwards.

Now, if King *Solomon*'s Income be eſteemed but four Times as much as his Father laid up (which it may very well be) then had *Solomon* coming in each Day (one Day with another, throughout his whole Reign) 390774 *l.* 16 *s.* 4 ¾ *d.* Sterling; and each Week, 2735423 *l.* 14 *s.* 9 ½ *d*; and each Year, 142242034 *l.* 9 *s.* 7 *d.* one Week and Year with another, throughout his whole Reign, which was 40 Years, 2 *Chron.* ix. 30.

That King *Solomon* may be allowed to have had four Times as much coming in as his Father laid up, will appear very reaſonable, if it be conſidered that King *David* was engaged in Wars almoſt conſtantly throughout his Reign, and his Enemies he had to diſpute with, were very powerful: What a bold Reſiſtance did ſome of the moſt inconſiderable of them make? *viz.* the *Philiſtines*, who were but a ſmall Republick, and yet how often did they prove too hard for all the Armies of *Iſrael*? As at one Time, when they took and carried away the Ark of God, and kept it in the Houſe of one of their Idols for a Time, and had it in their Country no leſs than ſeven Months, 1 *Samuel* iv, v, vi. Likewiſe, when *Saul*, the King, and three of his Sons were ſlain by them, and his Head, Body, and Armour carried into the Land of the *Philiſtines* in Triumph, to be Signs of the compleat Victory they had obtain'd, 2 *Samuel* xxxi. And even after they had been routed by *David*, how many times did they recruit and reſiſt obſtinately? 2 *Samuel* v.

Now, *David* could not carry on the Wars with ſo many powerful Enemies as he had to deal with, without very great Expences. *David* had no Preſents made to him by Foreign Princes; or if he had any, they were but few in Number.

But *Solomon* had very great and valuable Preſents made to him by almoſt every King and Sovereign Prince upon Earth; he enjoyed an uninterrupted Peace during the Time of his whole Reign, and had much Tribute from thoſe Kingdoms and Republicks that his Father, with very great Expence, had conquered.

David had Fleets at Sea for a ſmall part of his Reign; but his Fleets, and the Riches they brought him, were very inconſiderable, in reſpect of *Solomon*'s Fleets, and the Riches they brought him, throughout his whole Reign.

And that which gave King *Solomon* opportunity of this Trade (which he carried on through the *Red-Sea*, and the Streights of *Babelmandel*, not only to the Coaſts of *Africa* on the Weſt, but alſo to thoſe of *Arabia*, *Perſia*, and *India* on the Eaſt, and reaped prodigious Profit from it) was King *David*'s Conquering the Kingdom of *Edom*, and reducing it as a Province to his Empire, he thereby became Maſter of two Sea-Port Towns on the *Red-Sea*, viz. *Eloth* and *Ezion-geber* (2 Sam. viii. 14. 1 Kings ix. 26. 2 Chron. viii. 17.) and ſeeing the Advantage that might be made of theſe two Places, he wiſely took the Benefit of it, and there began this Traffick; which grew to ſo high a Pitch, under the wiſe Management of *Solomon*, that thereby he drew to theſe Ports, and from thence to *Jeruſalem*, all the Trade of *Africa*, *Arabia*, *Perſia*, and *India*, which was the chief Fountain of thoſe immenſe Riches he acquired; and for the better ſettling of it, he went in Perſon to *Ezion-geber*, and to *Eloth*, (2 *Chron.* viii. 17.) and there took care, by his own Inſpection, for the building of Ships, the fortifying of both thoſe Ports, and the ſettling of every thing elſe, which might tend to the Succeſs of carrying on of this Traffick, not only to *Ophir* and *Tarſhiſh*, but to all other Parts, where the Sea on which thoſe Ports lay, opened a Paſſage: But his chiefeſt care was to plant thoſe two Towns with ſuch Inhabitants, as might be beſt able to ſerve him in his Deſign.

For which purpoſe, he brought thither from the Sea-Coaſt of *Paleſtine* as many as he could get of thoſe who had been there uſed to the Sea, eſpecially of *Tyrians*, whom his Friend and Ally, *Hiram*, King of *Tyre*, from thence furniſh'd him with in great Numbers; and theſe were the moſt uſeful to him in this Affair, they were the beſt able to Navigate his Ships, and Conduct his Fleets through long Voyages.

There are two Places mentioned in Scripture, to which it was from thence carried on, that is, *Ophir* and *Tarſhiſh*; and all the Traffick, which the weſtern Parts of the World, from that Time, had with *Perſia*, *India*, *Arabia*, and the eaſtern Coaſts of *Africa*, was wholly carried on through the *Red-Sea*, and the Mouth of the *Nile*, 'till a Way was found, *Anno Domini* 1497. of ſailing to thoſe Parts by the Way of the Cape of *Good-Hope*.

After this, the *Portugueze*, for ſome Time, managed this Trade, but now it is in a manner got wholly into the Hands of the *Engliſh*, *Dutch*, and *French*; and the Emperor's Subjects in *Flanders* are like to have a part of it.

But though it be by all agreed, that the Trade to *Ophir* and *Tarſhiſh* was the ſame, that is now in the Hands of the *European Eaſt-India* Merchants, yet there are great Diſputes among the Learned, in what part of the eaſtern World theſe two Places lay.

Some will have *Ophir* to have been the Iſland of *Zocatora*, which lies on the eaſtern Coaſts of *Africa*, a little without the Streights of *Babelmandel*; others will have it to be the Iſland antiently called *Taprobana*, now *Ceilon*; and for its being an Iſland, they have the Authority of *Eupolemus* (an antient Author, quoted by *Euſebius*) on their ſide: For ſpeaking of *David*, he ſaith of him, "That "he built Ships at *Eloth*, a City of *Arabia*, and "from thence ſent Metal-Men to the Iſland of "*Urphe* (or *Ophir*) ſituated in the *Red-Sea*, which "was fruitful in yielding abundance of Gold, and "the Metal-Men brought it from thence to *Judea*, "*Apud Euſeb.*

But this being a Queſtion no way to be decided but from the Scriptures, all that is to be obſerved from thence, is, Firſt, That from *Elaoth* to *Tarſhiſh* was a Voyage of three Years going and coming, 1 *Kings* x. 22. 2 *Chron.* ix. 21. But in what Time the Voyage to *Ophir* was compleated, is not ſaid; and that therefore *Tarſhiſh* might be ſomewhere in the *Eaſt-Indies*, but *Ophir* might be any where nearer home, within the reach of theſe Seas.

Secondly, That the Commodities brought from *Tarſhiſh*, were Gold, and Silver, and Ivory, and Apes, and Peacocks, 1 *Kings* x. 22. and thoſe of *Ophir*, were Gold, and Almug-Trees, and precious Stones.

And therefore any Place in the Southern, or great *Indian* Sea, at the Diſtance of a then three Years Voyage from *Eloth*, which can beſt furniſh the Merchants with Gold, Silver, Ivory, Apes, and Peacocks, may be gueſſed to be the *Tarſhiſh* mentioned in Scripture; and any Place within the ſame Southern Sea, that can beſt furniſh them with Gold, Almug-Trees, and precious Stones, and in that Quantity of Gold as one of *Solomon*'s Navy's brought him in one Voyage, may be gueſſed to be the *Ophir* mentioned in the Holy Scriptures.

Only this much may be ſaid, that if the Southern Part of *Arabia* did furniſh the World in thoſe Times with the beſt Gold, and in the greateſt Quantity (as good Authors ſay) they that would have the *Ophir* of the Holy Scripture to be there ſituated, ſeem of all others to have the beſt Foundation for their Conjecture.

Agatharcides (p. 60. Edit. *Oxon*) tells us, "That "the *Alileans* and *Caſſandrians* in the Southern Parts "of *Arabia*, had Gold in that Plenty among them, "that they would give double the weight of Gold "for Iron, triple its weight for Braſs, and ten "times its weight for Silver; and that in digging the Earth, they found it in Gobbets of

“ pure Gold, which needed no refining; and the “ leaſt of them were as big as Olive-Stones, but “ others much larger.” No Author ſpeaks of any Place of the World, where Gold was found in the like Plenty.

But for the better underſtanding of what *Eupolemus* above ſaith of *Ophir*, that it was an Iſland in the *Red-Sea*; it is proper here to take Notice, that he doth not there mean the *Arabian* Gulph, which lieth between *Arabia* and *Egypt*, and is now commonly called the *Red-Sea*; but the great Southern Ocean, which extendeth it ſelf between *India* and *Africa*, and waſheth upon the Coaſt of *Arabia* and *Perſia*, where it appearing of a reddiſh colour, by reaſon of the Sun-beams conſtantly beating upon it in that hot Climate, it was therefore called the *Red-Sea:* And this alone was that, which truly was, and properly ſo called by the Antients, *Dionyſii Periegeſis*, v. 38. *Comment. Euſtathii eundem Strabo*, Lib. XVI. *page* 765. *Aathemeri Geographia*, Lib. II. *Chap.* 11.

For the *Arabian* Gulph, which hath now obtaintained that Name, was never, for any ſuch redneſs of it, ſo called; for neither the Water (as ſome will have it) nor the Sand (as others ſay) hath there any Appearance of that Colour, nor was it ever by any of the *Eaſterns* formerly ſo called.

Among the antient Inhabitants adjoining, it was called *Yam Edom*, i. e. the Sea of *Edom.*

Thirteenthly, King *SOLOMON* had 44000 *Stalls of Horſes for his Chariots, and* 12000 *Horſemen*, 1 Kings iv. 26. 2 Chron. ix. 25.

Now, ſuppoſe there was but one Horſe to a Stall, which is the leaſt that can be ſuppoſed, then had he 44000 Chariot-Horſes; but if there had been but one Horſe to a Stall, it is more likely it would have

have been ſaid he had 44000 Horſes, than 44000 Stalls of Horſes; therefore it is not unreaſonable to believe, that there was more than one Horſe at each Stall, and if there was more than one, then was there at leaſt two, and if there was, then was there 88000 Chariot Horſes: But if there was three Horſes to a Stall (as there might be, for I do not perceive that any thing can be made appear to the contrary) then had *Solomon* 132000 Chariot-Horſes, which (without doubt) were the beſt in the World.

If it ſhall be objected that 12000 Horſemen were not a ſufficient Number for ſo many Horſes; I anſwer, the 12000 Horſemen might be only the Men to whom the Charge of the Horſes was chiefly committed, and they might have other Men under them.

Fourteenthly, The wonderful Houſes King *SOLOMON* built, and the other Works he made. And firſt of the Temple; but before I ſay any thing of it, I ſhall give an Account of the great Expence laid out upon it, and of the Molten or Brazen Sea that ſtood in it, *viz.* how much of the Wine Meaſure of *Great Britain* it contained.

In the xxii. Chapter and 14. Verſe of the firſt Book of *Chronicles*, King *David* ſays to his Son *Solomon*, *In my Trouble I have prepared for the Houſe of the LORD, an Hundred Thouſand Talents of Gold, and a Thouſand Thouſand* (i. e. a Million of) *Talents of Silver, and of Braſs and Iron without weight (for it is in abundance:) Timber alſo and Stone have I prepared, and thou mayeſt add thereto.* This much *David* provided as being King, beſides what he gave out of his private Eſtate, 1 *Chron.* xxix. Ver. 3, 9. ſays *David*, *Moreover, becauſe I have ſet my Affection to the Houſe of my God, I have of mine own proper good, of Gold and Silver, which I have given to the Houſe of my God, over and above all that I have prepared for the holy Houſe, even Three Thouſand Talents of Gold of* Ophir, *and Seven Thouſand Talents of refined*

refined Siver, to overlay the Walls of the Houſes withal: (this much David *gave out of his private Eſtate), the Gold for things of Gold, and the Silver for things of Silver, and for all manner of Work to be made by the Hands of Artificers. And who then is willing to conſecrate his Service this Day unto the* LORD? *Then the Chief of the Fathers and Princes of the Tribes of* Iſrael, *and the Captains of Thouſands, and of Hundreds, with the Rulers over the Work, offered willingly, and gave for the Service of the Houſe of GOD, of Gold Five Thouſand Talents, and Ten Thouſand Drams; and of Silver Ten Thouſand Talents; and of Braſs, Eighteen Thouſand Talents; and One Hundred Thouſand Talents of Iron. And they with whom precious Stones were found, gave them to the Treaſure of the Houſe of the* LORD, *by the Hand of* Jehiel *the* Gerſhonite.

I having already given a Rule for reducing Talents of Gold to Pounds Sterling; and for reducing *Hebrew* Talents of Silver to Pound Sterling, this is

The RULE.

Multiply 450 (*i. e.* the Pounds Sterling that are = to a Talent of Silver) *by the Number of Talents, and the* Product *will be the Number of the Pounds Sterling that are = in Value to the given Number of Talents of Silver.*

By this Rule, the 1000000 Talents of Silver *David* as King gave towards the building of the Houſe of the LORD, will be found to be 450000000 of Pounds Sterling; and the 7000 Talents of Silver he gave out of his private Eſtate, 3150000 Pounds Sterling, and the 100000 Talents of Gold he gave as King, will be found to be 703254600 Pounds Sterling, and the 3000 Talents of Gold he gave out of his private Eſtate, 21097638 Pounds Sterling; and the Total of all theſe Sums is 1177502238 Pounds

Sterling, as may be ſeen by the Operation below, which is what was to be proved.

l. Sterling.		*Talents.*
703254600	= to	100000 *of Gold.*
21097638	= to	3000 *of Gold.*
450000000	= to	1000000 *of Silver.*
3150000	= to	7000 *of Silver.*
Total, 1177502238		

To reduce 10000 Drachms of Gold (which the chief of the Fathers and Princes of the Tribes of *Iſrael*, and the Captains of Thouſands and of Hundreds, *&c.* offered, and gave for the Service of the Houſe of the LORD, beſides the 5000 Talents of Gold, and the 10000 Talents of Silver) to Sterling Money, this is

The RULE.

Divide 140650.92 (the Shillings Sterling that are = to a Talent of Gold) *by* 6, *the* Quotient *will be Shillings*; *multiply the* Quotient *by* 5, *and the* Product *will be the Shillings in the* 10000 *Drachms*; *divide the* Product *by* 20, *and the Quotient will be the Pounds Sterlings that are* = *in Value to* 10000 *Drachms*, viz. 5860.455 *l.* = *to* 5860 *l.* 9 *s.* 1 *d.*

The Reaſon of this Rule.

10000 Drachms is $\frac{5}{6}$ of a Talent, which contains 12000 Drachms, therefore I divided 140650.92 *s.* (which is equal to a Talent of Gold) by 6, and the Quotient is 23441.82 *s.* (= to $\frac{1}{6}$ of a Talent of Gold) and I multiplied the Quotient by 5, and the Product is 117209.1 *s.* which I divided by 20, and the Quotient is 5860.455 *l.* = to 5860 *l.* 9 *s.* 1 *d.* Sterling, = to 10000 Drachms of Gold.

The 5000 Talents of Gold are = to 35162730 *l.* Sterling; and the 10000 Talents of Silver are = to 4500000 *l.* Sterling; and the Sum of 35162730 *l.* and of 4500000 *l.* and 5860 *l.* 9 *s.* 1 *d.* is 39668590 *l.* 9 *s.* 1 *d.* And ſo much the Chief of the Fathers and Princes of the Tribes of *Iſrael*, and the Captains of Thouſands and of Hundreds, and the Rulers over the Work offered willingly, and gave for the Service of the Houſe of God, beſides great Plenty of rich Jewels, and 18000 Talents of Braſs, and 100000 Talents of Iron. See the Operation following.

	l. Sterling.	*Talents.*
	35162730	= to — 5000 *of Gold.*
	4500000	= to —10000 *of Silver.*
	5860 *l.* 9 *s.* 1 *d.*	= to $\frac{5}{6}$ or to — 10000 (*Drachms of Gold.*
Total,	39668590 *l.* 9 *s.* 1 *d.*	*The Sum the Princes, &c.* (*gave.*
	1177502238 *l.*	*The Sum King* David (*gave.*
	1217170828 *l.* 9 *s.* 1 *d.*	*Sterling, the whole Sum*

of the Gold and Silver King David *and his Subjects gave towards the building the Houſe of God in* Jeruſalem.

This, with the Braſs and Iron (the Weight of which was ſo great that it could not be weighed) and the Timber and Stone *David* prepared, together with the Jewels, Braſs, and Iron the Subjects offered willingly, cannot be much leſs than *One Thouſand*

Thouſand Three Hundred Millions of Pounds Sterling. And that all this was laid out upon the Houſe of the LORD in *Jeruſalem,* which was built by *Solomon,* there's no room for any wiſe Man to queſtion it; for it cannot with Reaſon be ſuppoſed, that King *Solomon,* who was ſtor'd moſt plentifully with all the good Things that could be deſired by a wiſe King, would be guilty of ſo great Sacrilege, as to deduct or take from the LORD's Temple any Thing that was left for its Uſe, ſeeing he was counſelled by his Father to add thereto, 1 *Chron.* xxii. 14.

I have read a Pamphlet, printed about a Year and half before the Peace of *Utrecht* was concluded, which (as it was ſaid) was written by the command of Queen *Anne*'s Miniſtry, that the Subjects might be convinc'd of the Neceſſity of a Peace with *France*; and, amongſt the powerful Motives made uſe of in that Pamphlet, one of the ſtrongeſt was, that the Nation was *Fifty Millions of Pounds Sterling* in Debt, which the Author affirm'd was the Eighth Part of the Value of the whole Kingdom. If that be true, then there was much above three Times the Value of this Kingdom laid out upon the Temple of the LORD in *Jeruſalem,* which was built by King *Solomon,* which is much above the Value of two of the beſt Kingdoms in *Europe.*

To ſome it may ſeem incredible, that King *David,* and a few of his Subjects ſhould give ſuch immenſe Sums towards the building of the Houſe of the LORD in *Jeruſalem,* becauſe, at this Time, there is not ſo much Money to be found in all the Kingdoms and Republicks in *Europe*; for ſix of the richeſt Kingdoms in it, would reckon themſelves greatly oppreſſed, if, for once only, they were obliged to pay an annual Tax, amounting but to as much as only a few of the Subjects of King *David* gave freely and willingly towards the building of the LORD's Houſe in *Jeruſalem:* But to ſuch it will ſeem to be more creditable, if they conſider, that from the Time of *David* and *Solomon*, and for above a Thouſand Years afterwards, Gold and Silver was in much greater Plenty in the World, than either of them is at preſent.

The immenſe Riches which *Solomon* had in Silver and Gold, the prodigious Quantities of both theſe (g) which *Alexander* found in the Treaſuries of *Darius*, the vaſt Quantity expended upon *Shuſhan*, the chief City of *Perſia*, where *Tithonus* and his Son *Memnon*, when they built it, cauſed the Stones of the Building to be joined together with Gold, as *Caſſidorus* writeth, (h) and the vaſt Loads of them, which we find often to have been carried in Triumph before *Roman* Generals, when they returned from conquered Provinces, and the exceſſive Sums (i) ſome of the *Roman* Emperors expended in their luxurious and fantaſtical Enjoyments, and in Donatives to their Armies, and many other, with what private Perſons had, and expended (ſome of which ſhall be mentioned afterwards) ſufficiently prove this.

But at length, the Mines which furniſhed this Plenty, eſpecially thoſe of the Southern *Arabia*, (where 'tis ſuppoſed the Ophir of the Antients was) being exhauſted; and the Burning of Cities, and great Devaſtations of Countries, which after followed from the Eruptions of the *Goths*, *Vandals*, *Huns*, and other barbarous Nations in the Weſt, and of the *Saracens*, *Turks* and *Tartars* in the Eaſt, having waſted and de-

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(g) *See* Diodorus Siculus, Arrian *and* Q. Curtius.
(h) Caſſidore, *lib.* 7.
(i) *See the* Roman *Hiſtorians.*

ſtroyed a great part of the Gold and Silver, which the World afore abounded with; this introduced that great Scarcity of both which afterwards enſued, and which the Mines of *Mexico*, *Peru* and *Braſil*, have not as yet been fully able to repair.

Beſides the vaſt Quantities of Gold and Silver, that was in the Poſſeſſion of ſome great Emperors, Kings, and Sovereign Princes, I ſhall give account of what ſome private Men had and expended; and the firſt I ſhall mention ſhall be *Haman*, an *Amalekite* of the Poſterity of *Agag*, who was King of *Amalek* in the Time of *Saul*, *(k)* growing to be the chief Favourite of King *Artaxerxes*, all the King's Servants were commanded to pay Reverence unto him, and bow before him; and all of them obeyed the Royal Order herein, excepting *Mordecai* the *Jew*, who ſitting in the King's Gate according to his Office, paid not any Reverence to *Haman*, at ſuch Times as he paſſed by into the Palace, neither bowed he at all to him; of which being told, he was exceeding wroth, but ſcorning to lay Hands on one Man only, and being inform'd that *Mordecai* was a *Jew*, he reſolved in revenge of this Affront, to deſtroy not only him, but alſo his whole Nation with him, and to this perchance he was not a little excited by the ancient Enmity which was between them, and the People of whom he was deſcended. And therefore for the Accompliſhment of this Deſign, on the firſt Day of the firſt Month, that is *Niſan*, he called together his Diviners, to find out what Day would be moſt lucky for the putting of it in execution; whereon they, having according to the Way of Divination, then in uſe among thoſe Eaſtern People, caſt Lots firſt upon each Month, and after upon each Day of the

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(k) Eſther iii.

Month,

Month, did thereby determine for the Thirteenth Day of the Twelfth Month following, called *Adar*, as the Day which they judged would be moſt lucky for the Accompliſhment of what he purpoſed; whereon he forthwith went unto the King, and having inſinuated to him, that there was a certain People diſperſed all over his Empire, who did not keep the King's Laws, but followed Laws of their own, divers from the Laws of all other People to the Diſturbance of the good Order of the Kingdom, and the Breach of that Uniformity, whereby it ought to be governed, and that therefore it was not for the King's Profit that they ſhould be any longer ſuffered, he propoſed and gave counſel that they ſhould be all deſtroyed, and extirpated out of the whole Empire of *Perſia*, and urged it, as that which was neceſſary for the eſtabliſhing of the Peace and good Order of his Government. To which having obtained the King's Conſent, and an Order, that on the Thirteenth Day of *Adar* following, according as was determined by the Divination of the Lots, it ſhould be put in execution, he called the King's Scribes together to write the Decree; and it being drawn according as he propoſed, on the Thirteenth Day of the ſame Month of *Niſan*, Copies thereof were written out and ſent into all the Provinces of the Empire, commanding the King's Lieutenants, Governours, and all other his Officers in every one of them, to deſtroy, kill, and cauſe to periſh all *Jews*, both young and old, little Children and Women in one Day, even on the Thirteenth Day of *Adar* following, and to take the Spoil of them for the Prey; which Day being full Eleven Months after the Date of the Decree, the Lot which pointed out that Day ſeems to have been directed by the ſpecial Providence of GOD, that ſo long a Space intervening, there might be Time enough to take ſuch

ſuch Meaſures as might be proper to prevent the Miſchief intended.

But an Objection being like to ariſe againſt this, from thoſe who had the Management of the King's Treaſury, becauſe the deſtroying of ſo great a Number of the King's Subjects, as the *Jews* through the whole Empire amounted to, muſt neceſſarily cauſe a great diminution of the Publick Taxes, he offered *(l)* Ten-thouſand Talents of Silver out of his own Purſe to make the King amends for it; which Sum, if computed by *Babyloniſh* Talents, amounts to Two Millions One Hundred and Nineteen Thouſand Pounds of our Sterling Money; but if by *Jewiſh* Talents, it will be above twice as much; a prodigious Sum for a private Man to be Owner of! As this ſhews the Greatneſs of his Riches, ſo it doth alſo the Greatneſs of his Malice towards the *Jews*, that he could be content to give ſo great a Price for the executing his Revenge upon them. But the King's Favour was then ſo great towards him, *(m)* that he remitted to him all that Sum, and granted him all that he deſir'd without it; though the Damage, which the King would have ſuffered by it in his Revenue, would have been much greater than all that the Enemy was able to give *(n)* could have been ſufficient to countervail. Though *Haman*'s Riches was vaſtly great, yet there are Inſtances to be given of much greater Sums in the Hands of ſome private Men in thoſe ancient Times. I ſhall only mention two of them, *viz.* *Pythius* the *Lydian*, and *Marcus Craſſus* the *Roman*. The Former, when *Xerxes* paſſed into *Greece*, *(o)* was poſſeſſed of Two Thouſand Talents

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(l) Eſther iii. 9.
(m) Eſther iii. 10.
(n) Eſther vii. 4.
(o) Herodotus, *lib.* 7.

in Silver, and Four Millions of Daric's in Gold, which together amounted to near Five Millions and a half of our Sterling Money. And the Latter, *(p)* after he had conſecrated the Tenth of all that he had to *Hercules*, feaſted all the People of *Rome* at Ten Thouſand Tables, and had given them in a Donative of Corn, to every Citizen as much as would laſt him three Months, found the Remainder of his Eſtate to be Seven Thouſand One Hundred *Roman* Talents, which amounts to above a Million and a half of our Money.

Secondly, Of the molten or brazen Sea, in the Temple, which was ſo called becauſe of its Hugeneſs or Largeneſs, made in the Form of a Hemiſphere, as *Flavius Joſephus* ſays, ſupported by Twelve Oxen, (I preſume made out of the ſame Metal) which *received and held Three Thouſand Baths*, 2 Chron. iv. 5. To reduce which to the Wine-Meaſure of *Great-Britain*,

The RULE is,

Multiply 7.564935 (the Wine Gallons and parts of a Gallon of *Great-Britain* that are = to a Bath) by 3000 Baths, and the Product will be 22694.805 Gallons, which divide by 63 (the Gallons in a Hogſhead Wine-Meaſure) and the Quotient will be 360.235, *i. e.* 360 Hogſheads, 14 Gallons, 3 Quarts. And ſo much of the Wine-Meaſure of *Great-Britain* did the molten Sea, in the Temple built by *Solomon*, contain. See the Operation following:

(p) Plutarchus in Craſſo.

Gallons.
7.564935
3000 *Baths.*
Hogſheads.
63) 22694.805000 *Gallons* (360.235 = *to*
189 . . . . .
379 360 *Hogſheads*, 14 *Gallons*,
378 3 *Quarts.*
148
126
220
189
315
315

By this Rule, the 20000 Baths of Wine, and the 20000 Baths of Oil (mentioned 2 *Chron.* ii. 10.) which King *Solomon* gave to the Servants of *Hiram* King of *Tyre*, the Hewers that cut and carved Timber for *Solomon*, will each of them be found to be 600 Tons, or 2401 Hogſheads, 35 Gallons, and very near 3 Quarts.

The wonderful Houſes King *Solomon* built, the Greatneſs of which may be computed,

Firſt, By the great Number of Men he employed when he was Building them.

Secondly, By the Time they were in Building.

1*ſt*. *Solomon*, when he was preparing for and Building the Temple, and his own Palaces, imployed no leſs than 183300 Men. He had 70000 *that bare Burdens*,

Burdens, and 80000 *Hewers in the Mountains: Beſides the Chief of* Solomon*'s Officers, which were over the Work,* 2300 *which ruled over the People that wrought in the Work,* 1 Kings v. 15, 16.

2*dly*, The Time that King *Solomon* was Building the Houſe of the LORD, was Seven Years and Six Months, 1 *Kings* vi. 1 and 38. *In the Fourth Year of* Solomon*'s Reign over* Iſrael, *in the Month* Zif, *which is the ſecond Month*, (containing part of *April* and part of *May*) was the Foundation of the *Houſe of the LORD laid*, (which was in the 480 Year after the Children of *Iſrael* were come out of *Egypt*; and before Chriſt's Incarnation 1012 Years) *and in the Eleventh Year in the Month* Bull, *which is the Eighth Month*, (containing part of *October* and part of *November*) *was the Houſe finiſhed throughout the Parts thereof.*

This Houſe was built on *Mount* Moriah, *where the LORD appeared unto* David *his Father, in the Place that* David *had prepared in the Threſhing-Floor of* Ornan *the* Jebuſite, 2 *Chron.* iii. 1. And ſome Authors of good Credit affim, that it was on the Place where *Abraham* was commanded to offer up his Son *Iſaac*, Gen. xxii. 2.

Now theſe are the Things wherein Solomon *was inſtructed for the Building of the Houſe of GOD: The Length by Cubits, after the firſt Meaſure, was Threeſcore Cubits, and the Breadth Twenty Cubits, and the Height thereof Thirty Cubits. And the Porch that was in the Front of the Houſe, the Length of it was according to the Breadth of the Houſe, Twenty Cubits, and the Height was a Hundred and Twenty Cubits: and he overlaid it within with pure Gold. And the greater Houſe he ceiled with Fir-tree, which he overlaid with fine Gold, and ſet thereon Palm-trees and Chains. And he garniſhed the Houſe with precious Stones for beauty; and the Gold*

was

was Gold of Parvaim. *He overlaid alſo the Houſe, the Beams, the Poſts, and the Walls thereof, and the Doors thereof with Gold, and graved Cherubims on the Walls. And he made the moſt holy Houſe, the Length whereof was according to the Breadth of the Houſe, Twenty Cubits, and the Breadth thereof Twenty Cubits: and he overlaid it with fine Gold, amounting to Six Hundred Talents. And the Weight of the Nails was Fifty Shekels of Gold: and he overlaid the upper Chamber with Gold. And in the moſt Holy Place he made two Cherubims of Image-Work,* (which are ſaid to prefigure the Old and New Teſtament) *and overlaid them with Gold. And the Wings of the Cherubims were Twenty Cubits long: one Wing of the one Cherub was five Cubits, reaching to the Wall of the Houſe: and the other Wing was likewiſe five Cubits, reaching to the Wing of the other Cherub. And one Wing of the other Cherub was five Cubits, reaching to the Wall of the Houſe: and the other was Five Cubits alſo, joyning to the Wing of the other Cherub. The Wings of theſe Cherubims ſpread themſelves forth Twenty Cubits: and they ſtood on their Feet, and their Faces were inward. The Height of the one Cherub was Ten Cubits, and ſo was that of the other: and they ſpread forth their Wings over the Ark, wherein there was nothing ſave the two Tables which* Moſes *put therein at* Horeb, *when the LORD made a Covenant with the Children of* Iſrael; tho' in the Wilderneſs it had in it *the golden Pot that had Manna, and* Aaron's *Rod that budded, and the Tables of the Covenant*; but it is believed the golden Pot and *Aaron*'s Rod were placed before the Ark, within the Vail, in the moſt holy Place in the Temple. *And the Oracle in the forepart was Twenty Cubits in Length, and Twenty Cubits in Breadth, and Twenty Cubits in the Height thereof; and he overlaid it with pure Gold. And he made the Vail of Blue, and Purple, and Crimſon, and fine Linnen, and wrought Cherubims thereon. And he put the Mercy-Seat* (which was God's Throne of Grace amongſt the *Iſraelites* and *Jews*) above *upon the Ark. And the*

*Cherubims (of Glory) ſtretched forth their Wings on high, covering the Mercy-Seat, and their Faces looking one to another, toward the Mercy-*Seat, 2 Chron. iii. 3, to 15. 1 Kings vi. 20, 26. viii. 7, 9. 2 Chron. v. 8, 10. Hebrews ix. 4, 5. Exod. xxv. 20, 21, 22.

And the Floor of the Houſe he overlaid with pure Gold, within and without. And for the Entring of the Oracle, he made Doors of Olive-tree; *and he carved upon them Carvings of Cherubims, and Palm-trees, and open Flowers, and overlaid them with Gold, and ſpread Gold upon the Cherubims, and upon the Palm-trees. So alſo made he for the Door of the Temple, Poſts of Olive-tree, a fourth part of the Wall. And the two Doors were of Fir-tree: the two Leaves of the one Door were folding, and the two Leaves of the other Door were folding. And he carved thereon Cherubims, and Palm-trees, and open Flowers: and covered them with Gold, fitted upon the carved Work,* 1 Kings vi. 30, 31, 32, 33, 34,35.

And Solomon *made all the Veſſels that pertained unto the Houſe of the* LORD: *the Altar of Gold, and the Table of Gold, whereupon the Shew-bread was; and the Candleſticks of pure Gold, Five on the right Side, and Five one the left, before the Oracle, with the Flowers, and the Lamps, and the Tongues of Gold, and the Bowls, and the Snuffers, and the Baſons, and the Spoons, and the Cenſers of pure Gold; and the Hinges of Gold, both for the Doors of the inner Houſe, and the moſt holy Place, and for the Doors of the Houſe,* to wit, *of the Temple,* 1 Kings vii. 48, 49, 50.

Moreover, he made an Altar of Braſs, Twenty Cubits the Length thereof, and Twenty Cubits the Breadth thereof, and Ten Cubits the Height thereof. Alſo he made a molten Sea of Ten Cubits from Brim to Brim, round in compaſs, and Five Cubits the Height thereof, and under was the Similitude of Oxen, Ten in a Cubit, compaſſing the Sea round about. Two rows of Oxen were caſt when it was caſt. It ſtood upon Twelve Oxen, (which were Types of the Twelve Apoſtles) *Three looking toward the North, and*

Three looking toward the South, and Three looking toward the Eaſt, and Three looking toward the Weſt: and the Sea was ſet above upon them, and all their hinder Parts were inward. And the Thickneſs of it was an Hand Breadth, and the Brim of it like the Work of the Brim of a Cup, with Flowers of Lillies, and it received and held Three Thouſand Baths. He made alſo Ten Lavers, and put Five on the Right Hand, and Five on the Left, to waſh in them; ſuch Things as they offered for the Burnt-Offering they waſhed in them; but the Sea was for the Prieſts to waſh in. He made alſo Ten Tables, and placed them in the Temple, Five on the Right Side, and Five on the Left: and he made an Hundred Baſons of Gold. Furthermore, he made the Court of the Prieſts, and the great Court, and Doors for the Court, and overlaid the Doors of them with Braſs. And he ſet the Sea on the Right Side of the Eaſt End, over againſt the South, 2 Chron. iv. to Ver. 11.

He caſt two Pillars of Braſs of eighteen Cubits high apiece: and a Line of twelve Cubits did compaſs either of them about. And he made two Chapiters of molten Braſs, to ſet upon the Tops of the Pillars: and the Height of the one Chapiter was five Cubits, and the Height of the other Chapiter was five Cubits: and the Nets of Chequer-work, and Wreaths of Chain-work, for the Chapiters which were upon the Top of the Pillars; ſeven for the one Chapiter, and ſeven for the other Chapiter. And he made the Pillars, and two rows round about upon the one Net-work, to cover the Chapiters that were upon the Top, with Pomegranates: and ſo did he for the other Chapiter. And the Chapiters that were upon the Top of the Pillars, were of Lilly-work in the Porch, four Cubits. And the Chapiters upon the two Pillars had Pomegranates alſo above, over-againſt the Belly which was by the Net-work: and the Pomegranates were two Hundred in Rows round about upon the other Chapiter. And he ſet up the Pillars in the Porch of the Temple: and he ſet up the right Pillar, and called the Name there of Jachin; (that is, he ſhall eſtabliſh) *and he ſet up the Left Pillar, and called the Name thereof* Boaz (that is, in it is Strength, as it is on the Margin.) *And upon the Top of the Pillars was Lilly-work,* 1 Kings vii. from Ver. 15. to Ver. 23.

And againſt the Wall of the Houſe he built Chambers round about, both of the Temple and of the Oracle, 1 Kings vi. 5.

And the Houſe when it was in building was built of Stone, made ready before it was brought thither; ſo there was neither Hammer nor Axe, nor any Tool *of Iron heard in the Houſe while it was in building. So he built the Houſe and finiſhed it; and covered the Houſe with Beams and Boards of Cedar. And* Solomon *overlaid the Houſe within with pure Gold: and he made a Partition by the Chains of Gold before the Oracle, and he overlaid it with Gold: And the whole Houſe he overlaid with Gold, until he had finiſhed all the Houſe: alſo the whole Altar that was by the Oracle he overlaid with Gold,* 1 Kings vi. 7, 9, 21 and 22.

The 600 Talents of fine Gold, wherewith the moſt holy Houſe was overlaid, is = to 4219527 *l.* 12 *s.* Sterling.

The 50 Shekels of Gold, the Nails in the moſt holy Houſe weighed, is = to 100 *l.* 10 *s.* 9 ½ *d.* Sterling, which is found by this

RULE.

Divide 140650.92 *s.* (= to one Talent of Gold) by 3000 (the Shekels that are = to a Talent) the Quotient will be 40.216 *s.* which Multiply by 50, (the Number of Shekels) the Product will be 2010.8 *s.* which Divide by 20 (the Shillings in 1 *l.*) the Quotient will be 100.54 *l.* = to 100 *l.* 10 *s.* 9 ½ *d.*

For

For finding how many Yards, Feet, and Inches in long Meaſure any Number of Cubits (in the ſame Meaſure) is = to, this is

The RULE.

Multiply 21.888 Inches (= to one Cubit) by the Number of Cubits, the Product will be the Inches in the Number of Cubits; Divide the Product by 12, the Quotient will be Feet, which divide by 3, the 2d Quotient will be Yards. By this Rule what follows will be found, *viz.*

	Yards	*Feet*	*Inches.*
The Length of the Temple	36	1	5 1/2
The Breadth of the Temple	12	0	6
The Height of the Temple	18	0	8 3/4
The Length of the Porch	12	0	6
The Breadth of the Porch	06	0	3
The Height of the Porch	72	2	11
The Length of the moſt holy Houſe	12	0	6
The Breadth of the moſt holy Houſe	12	0	6
The Height of the moſt holy Houſe	18	0	8 3/4
The Height of the Cherubims	06	0	3
The Height of each of the Pillars, that were plac'd at the Entring into the Porch, with the Chapiter upon it	13	2	11 2/5
The Circumference of each Pillar	07	0	10 2/3

Thus have I made a brief and true (tho' not a full) Deſcription of the moſt wonderful Houſe that ever was in the World; wonderful indeed, not only in reſpect of its being wholly overlaid with Gold, and garniſhed with rich Jewels, and other admirable Ornaments, bur moſt wonderful in three other Reſpects, *viz.* in reſpect,

Firſt, Of Fire coming down from Heaven, and conſuming the Sacrifice.

Secondly, Of the Glory of the LORD filling the Houſe.

Thirdly, Of the Oracle in the moſt holy Houſe.

None of theſe were ever known in the ſecond Temple.

1*ſt*. *The Fire came down from Heaven, and conſumed the Burnt-Offering and the Sacrifice*, 2 Chron. vii. 1. And this it did as often as Offerings were made by Fire unto the LORD, which was at leaſt twice every Day; and all other Fire was reckoned ſtrange Fire, for offering with ſuch *Nadab* and *Abihu*, two of the Sons of *Aaron*, that were Prieſts, were devoured with Fire from the LORD, *Numbers* xxviii. 3, 4. *Levit.* x. 1, 2.

2*dly*. *The Glory of the LORD filled the Houſe*; which was like *Moſes* his Countenance, (after he had been Forty Days and Forty Nights with GOD upon Mount *Sinai*, or like that excellent Glory that appeared at Chriſt's Transfiguration upon the Mount) ſo dazling, that mortal Eyes could not behold it, even *Moſes* himſelf was not able to behold it; he *was not able to enter into the Tent of the Congregation, becauſe the Cloud abode thereon, and the Glory of the LORD filled the Tabernacle. And the Prieſts could not enter into the Houſe of the LORD, becauſe the Glory of the LORD had*

had filled the LORD's *Houſe.* No wonder then, that all the Children of *Iſrael*, when *they ſaw how the Fire came down, and the Glory of the* LORD *upon the Houſe, bowed themſelves with their Faces to the Ground upon the Pavement, and worſhipped and praiſed the* LORD, Exod. xxxiv. 30, 31, 32, 33, 34 and 35 Verſes. 2 Epiſt. of Peter i. 17. Matthew xvii. 1, 2. Mark ix. from Verſe 28 to 37. Exodus xl. 35. 2 Chron. vii. 1, 2, 3.

3dly. In this Temple was the Oracle, from whence the High-Prieſt, when he appeared before the Vail to ask Counſel of GOD, was anſwered with an audible Voice, as it is believed: For *Moſes* was anſwered ſo. *Numb.* vii. 89. *And when* Moſes *was gone into the Tabernacle of the Congregation, to ſpeak with him; then he heard the Voice of one ſpeaking unto him from off the Mercy-Seat, that was upon the Ark of the Teſtimony, from between the two Cherubims: and he ſpake unto him.* This is what GOD had promiſed, *Exodus* xxv. 21. *And thou ſhalt put the Mercy-Seat above upon the Ark, and in the Ark thou ſhalt put the Teſtimony that I ſhall give thee. And there I will meet with thee, and I will commune with thee, from above the Mercy-Seat, from between the two Cherubims which are upon the Ark of the Teſtimony, of all things which I will give thee in Commandment unto the Children of* Iſrael. And the ſame Way did GOD afterwards communicate his Will to the Governours of *Iſrael*, as often as he was conſulted by them, only with this Difference, that whereas *Moſes*, thro' the extraordinary Favour that was granted unto him, had immediate acceſs to the Divine Preſence; and GOD did there commune with him, as it were *Face to Face, as a Man ſpeaketh to his Friend*, Exod. xxxiii. 11. None other was admitted to ask Counſel of him, but through the Mediation of the High Prieſt, (*Numbers* xxvii. 21. *Judges* xx. 28.) who in his ſtead asked Counſel of him by the Judgment of Urim, that was by preſenting himſelf with the Breaſt-plate on over all his other Robes before the

Vail, exactly over-againſt the Mercy-Seat, where the Divine Preſence reſted. And when he thus preſented himſelf according to the Divine Law, GOD gave him an Anſwer in the ſame manner as he did *Moſes*, that was by an audible Voice from the Mercy-Seat. For in many Inſtances which we have in Scripture of GOD's being conſulted this Way, the Anſwer for the moſt part is uſhered in with, the LORD ſaid; and when *Iſrael* made peace with the *Gibeonites*, they are blamed for not asking Counſel at the Mouth of the LORD, *Joſhua* ix. Both which Phraſes ſeem plainly to expreſs a vocal Anſwer, and taking them both together, they can hardly be ſuppoſed to import any thing elſe; and for this Reaſon it is, that *the Moſt Holy Houſe*, or *the Holy of Holies*, viz. the Place where the Ark and the Mercy-Seat ſtood, from whence the Anſwer was given, is ſo often in Scripture called the *Oracle*, becauſe from thence the Divine Oracles of GOD were uttered forth to thoſe that asked Counſel of him, *Judges* i. 1, 2. xx. 18, 23 and 28. 1 *Samuel* x. 22. xxiii. 2, 4, 11, 12. 2 *Samuel* ii. 1, 19, 23, 24. xxi. 1. 1 *Samuel* xxx. 7, 8. *Pſalm* xxviii. 2. 1 *Kings* vi. 5, 16, 19, 20, 21, 22, 23 and 31. vii. 39. viii. 6, 8. 2 *Chron.* iii. 16. iv. 20, 7 and 9.

After all that hath been ſaid of the Dimenſions of the Temple built by *Solomon*, it may be asked, How comes it to paſs that the Breadth of the ſecond Temple, was by *Cyrus*'s Commiſſion (*Ezra* vi. 3.) appointed to be three times the Breadth of that built by *Solomon*? when it is ſaid, *Haggai* ii. 3. *Who is left among you that ſaw this Houſe in her firſt Glory? How do you ſee it now? Is it not in your Eyes in compariſon of it as nothing?* I anſwer, the ſaid different Meaſures are to be underſtood of different Diſtances between which the ſaid Meaſures were taken: For the twenty Cubits Breadth of *Solomon*'s Temple, was only the Breadth of the Temple itſelf, meaſuring from the inſide of the Wall on one Side, to the inſide of the Wall on the other Side: But the ſixty Cubits Breadth, in *Cyrus*'s Commiſſion, was the Breadth of the whole Building, meaſuring from the inſide of the outer Wall of it on the one ſide, to the inſide of the outer Wall on the other ſide. For beſides the Temple itſelf, which contained the holy Place, and the Holy of Holies, each twenty Cubits broad, there were thick Walls incloſing it on each ſide, and without them Chambers on each ſide, then another Wall, then a Gallery, and then the outer Walls of all encloſing the whole Building, being five Cubits thick, which together made up the whole Building to be ſeventy Cubits, from out to out, from which deduct the five Cubits thick off the outer Wall on each ſide, there remains ſixty Cubits, the Breadth contain'd in *Cyrus*'s Commiſſion, the Breadth of the whole Building, from the inſide of the one outer Wall to the inſide of the other.* So that the Difference of the ſaid twenty Cubits breadth, and the ſaid ſixty Cubits breadth, is no more than this, that one of them was meaſured from the inſide to the inſide of the inner Wall, and the other from the inſide to the inſide of the outer Wall of the ſaid Temple. But the Glory of the Temple built by *Solomon* was not in its Bigneſs. The main Grandure and Excellency of it conſiſted in what is aforementioned, and in what followeth, *viz.* 1*ſt*, In its Workmanſhip, being every-where exceeding curious, and its Overlayings vaſt and prodigious. 2*dly*, In its Materials, for the Temple built by *Solomon*, was all built of new Stone, vaſtly large, hewen out in a moſt curious and artful manner, made ready before it was brought thither. 3*dly*, In its out Buildings; for the Court in which the Temple ſtood, and that without it, call'd, *The Court of the Women*, were

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* *See* Lightfoot *of the Temple.*

built

built round with ſtately Buildings and Cloyſters; and the Gates entering thereinto were very beautiful and ſumptuous, and the outer Court, which was a large Square encompaſſing all the reſt, of Two Hundred and Fifty Yards long on every ſide, was ſurrounded with a moſt ſtately and magnificent Cloyſter, ſuſtained by three rows of Pillars on three Sides of it, and by four on the fourth; whereas the ſecond Temple was moſtly built of ſuch Stones only, as they dug up out of the Ruins of the former, and all the out Buildings then lay in their Rubbiſh, without any proſpect of any ſpeedy Reparation, and there could then be no proportion in Glory betwixt this new Temple, and that built by *Solomon*, tho' they were both built upon the ſame Foundation.

In finding the Value of the Talents, Shekels, and Drachms of Gold and Silver aforementioned in Sterling Money, I have ſuppoſed all of it to be equal in fineneſs to the Standard of *Great-Britain*, as it may very well be, becauſe much of it was pure Gold, and refined Silver, altogether free from Allay, and much of it fine Gold and Silver, having but little of Allay in it; and it may with very good Reaſon be ſuppoſed, that in a Country, wherein there was ſo great plenty of Gold and Silver, as was in *Iſrael* in *Solomon*'s Time, there was but little Gold or Silver that had in it more of Allay than the Coin of *Great-Britain* has in it.

Note, Many are of Opinion that there were two different Shekels, conſequently two different Talents amongſt the *Iſraelites* and *Jews*, becauſe a Shekel of the Sanctuary is ſo often mentioned in Scripture: But its plainly manifeſt by Scripture, that there was none other Shekel but one to be allowed as an *Hebrew* Shekel amongſt the *Iſraelites* and *Jews*. *Ezekiel* xlv. 12. *And the Shekels ſhall be twenty Gerahs.* This was a

Shekel of the Sanctuary, and it was the Standard for trying the Shekels belonging to all other Countries, and they were to be valued as they differed from it more or leſs.

But Solomon *was Building his own Houſe Thirteen Years,* 1 Kings vii. 1. Though we have no Account of the Form and Dimenſions of this Houſe, yet it is not to be doubted but it was very admirable, both for Beauty and Statelineſs; likewiſe for wonderful Contrivance, and rich and coſtly Furniture, it being the chief Palace of the wiſeſt and greateſt King.

He built alſo the Houſe of the Foreſt of Lebanon, *the Length thereof was an Hundred Cubits, and the Breadth thereof Fifty Cubits, and the Height thereof Thirty Cubits, upon four rows of Cedar Pillars, with Cedar Beams upon the Pillars. And it was covered with Cedar above upon the Beams, that lay on forty five Pillars, fifteen in a row. And there were Windows in three rows, and Light was againſt Light in three ranks. And all the Doors and Poſts were ſquare with the Windows; and Light was againſt Light in three ranks. And he made a Porch of Pillars, the Length thereof was Fifty Cubits, and the Breadth thereof Thirty Cubits, and the Porch was before them; and the other Pillars and the thick Beams were before them.*

Then he made a Porch for the Throne where he might judge, even the Porch of Judgment; and it was covered with Cedar from one ſide of the Floor to the other. And his Houſe where he dwelt had another Court within the Porch, which was of the like work: Solomon *made alſo an Houſe for* Pharaoh's *Daughter (whom he had taken to Wife) like unto this Porch.*

All theſe were of coſtly Stones, according to the Meaſure of hewed Stones, ſawed with Saws within and without, even from the Foundation unto the Coping, and ſo on the outſide toward the great Court. And the Foundation was of coſtly Stones, even great Stones, Stones of Ten Cubits, and Stones of Eight Cubits. And above were coſtly Stones, (after the

Meaſures of hewed Stones) and Cedars. And the great Court round about was with three rows of hewed Stones, and a row of Cedar Beams, 1 Kings vii. from Ver. 2. to 12.

The Dimenſions of the Houſe of the Foreſt of Lebanon *in* Britiſh *Meaſure.*

	Yards.	*Feet.*	*Inches.*
The Length	60	2	4¾
The Breadth	30	1	2½
The Height	18	1	2½

The Dimenſions of the Porch in Britiſh *Meaſure.*

	Yards.	*Feet.*	*Inches.*
The Length	30	1	2½
The Breadth	18	1	2½

The Dimenſions of the Stones in the Foundation in Britiſh *Meaſure.*

Yards.	*Feet.*	*Inches.*
6	0	2¾
4	2	7

I ſhall conclude this Head with the modeſt and general Account King *Solomon* himſelf gives of his own Works in *Eccleſiaſtes* ii. *from Verſe* 4. *to Verſe* 11. ‘ I made me great Works, I builded me Houſes, I ‘ planted me Vineyards. I made me Gardens and ‘ Orchards, and I planted Trees in them of all kind ‘ of

‘ of Fruits. I made me Pools of Water, to water ‘ therewith the Wood that bringeth forth Trees. I ‘ got me Servants and Maidens, and had Servants ‘ born in my Houſe; alſo I had great Poſſeſſions of ‘ great and ſmall Cattle, above all that were in *Jeruſalem* before me. I gathered me alſo Silver and Gold, ‘ and the peculiar Treaſure of Kings, and of the Provinces: I gat me Men-ſingers and Women-ſingers, ‘ and the Delights of the Sons of Men, as muſical Inſtruments, and that of all ſorts. So I was great and ‘ increaſed more than all that were before me in *Jeruſalem*; alſo my Wiſdom remained with me. And ‘ whatſoever mine Eyes deſired, I kept not from ‘ them, I with-held not my Heart from any Joy; for ‘ my Heart rejoyced in all my Labour.’

As to the Number of *Solomon*’s Servants it cannot be found; but it is not to be doubted but their Number was as great, if not greater than thoſe that ſerved his Father, who beſides his Miniſters of State, and thoſe of his Houſhold, and the Generals of his Army, had no leſs that 288000, many of which were employed about ‘ the Store-houſes in the Fields, in the ‘ Cities, in the Villages, and in the Caſtles, and in ‘ the Work of the Field for Tillage of the Ground, ‘ and over the Vineyards; and over the Increaſe of ‘ the Vineyards, for the Wine-ſellers; and over the ‘ Olive-trees, and the Sycomer-trees that were in the ‘ low Plains, and over the Cellars of Oil, and over ‘ the Herds that fed in *Sharon*, and over the Herds ‘ that were in the Vallies, and over the Flocks, *&c.* ‘ 1 *Chron.* xxvii.’

Now after all that hath been ſaid, in ſetting forth in order the Greatneſs of *Solomon*, and the Glory of his Reign, I imagine it will be ſaid by ſome, What did all his Greatneſs, and the Glory of his Reign avail, ſeeing he became an Apoſtate, and died in that Eſtate?

Eſtate? Is it not affirm'd, 1 *Kings* xi. that ‘*Solomon* loved many ſtrange Women (together with the Daughter of *Pharoah*) Women of the *Moabites*, *Ammonites*, *Edomites*, *Zidonians* and *Hittites*. Of the Nations concerning which the LORD ſaid unto the Children of *Iſrael*, ye ſhall not go into them, neither ſhall they come in unto you, for ſurely they will turn away your Hearts after their Gods: *Solomon* clave unto theſe in love. And he had Seven Hundred Wives, Princeſſes, and Three Hundred Concubines: and his Wives turned away his Heart. For it came to paſs when *Solomon* was old, that his Wives turned away his Heart after other Gods: and his Heart was not perfect with the LORD his GOD, as was the Heart of *David* his Father. For *Solomon* went after *Aſhtoreth* the Goddeſs of the *Zidonians*, and after *Milcom* the Abomination of the *Ammonites*. And *Solomon* did Evil in the ſight of the LORD, and went not fully after the LORD, as did *David* his Father. Then did *Solomon* build an High Place for *Chemoſh*, the Abomination of *Moab*, in the Hill that is before *Jeruſalem*; and for *Molech*, the Abomination of the Children of *Ammon*. And likewiſe did he for all his ſtrange Wives, which burnt Incenſe, and ſacrificed unto their Gods. And the LORD was angry with *Solomon*, becauſe his Heart was turned from the LORD GOD of *Iſrael*, which had appeared unto him twice, and had commanded him concerning this Thing, that he ſhould not go after other Gods: but he kept not that which the LORD commanded.

This is a heavy Charge which was brought againſt *Solomon*; and his falling away was indeed very fearful, becauſe he did it when he was old; and it was likewiſe aggravated with many other Circumſtances, for in ſo doing, he rebelled againſt the GOD that loved him, and gave him more Wiſdom, Riches, and Honour

Honour than any King before him ever had; and the two latter he gave him moſt freely, for he did not ſo much as aſk him, 1 *Kings* iii. 11, 12, 13. and if he had died in this Eſtate, his Loſs and Puniſhment would have been infinite; but if it can be proved, that after all his Apoſtaſy he became a true Penitent, then it cannot be denied but that there was a *poſſibility*, and even a ſure *probability* of his being ſaved; ſeeing *Manaſſeh* (was) 'who did that which 'was Evil in the ſight of the LORD, like unto the 'Abominations of the Heathen, whom the LORD 'had caſt out before the Children of *Iſrael*. For he 'built again the High Places, which *Hezekiah* his Fa'ther had broken down; and he reared up Altars for '*Baalim*, and made Groves, and worſhipped all the 'Hoſt of Heaven, and ſerved them. Alſo he built 'Altars in the Houſe of the LORD, whereof the 'LORD had ſaid, In *Jeruſalem* ſhall my Name be for 'ever. And he built Altars for all the Hoſt of Hea'ven, in the two Courts of the Houſe of the LORD. 'And he cauſed his Children to paſs through the 'Fire in the Valley of the Son of *Hinnom*: alſo he ob'ſerved Times, and uſed Enchantments, and uſed 'Witchcraft, and dealt with a familiar Spirit, and 'with Wizards: he wrought much Evil in the Sight 'of the LORD, to provoke him to anger. And he 'ſet a carved Image (the Idol which he had made) in 'the Houſe of GOD, of which GOD had ſaid to *Da'vid*, and to *Solomon* his Son, in this Houſe, and in '*Jeruſalem*, which I have choſen before all the Tribes 'of *Iſrael*, will I put my Name for ever. Neither 'will I any more remove the Foot of *Iſrael* from out 'of the Land which I have appointed for your Fa'thers; ſo that they will take heed to all that I have 'commanded them, according to the whole Law, and 'the Statutes and Ordinances by the Hand of *Moſes*. 'So *Manaſſeh* made *Judah*, and the Inhabitants of *Je'ruſalem* to err, and to do worſe than the Heathen,

'whom

‘whom the LORD had deſtroyed before the Children of *Iſrael.* And the LORD ſpake to *Manaſſeh* and to his People, but they would not hearken: Wherefore the LORD brought upon them the Captains of the Hoſt of the King of *Aſſyria,* which took *Manaſſeh* among the Thorns, and bound him with Fetters, and carried him to *Babylon.* And when he was in Affliction, he beſought the LORD his GOD, and humbled himſelf greatly before the GOD of his Fathers, and prayed unto him, and he was entreated of him, and heard his Supplication, and brought him again to *Jeruſalem* into his Kingdom. Then *Manaſſeh* knew that the LORD was GOD. Now after this, he built a Wall without the City of *David,* on the Weſt ſide of *Gihon,* in the Valley, even to the Entring in at the Fiſh-gate, and compaſſed about *Ophel,* and raiſed it up a very great height, and put Captains of War in all the fenced Cities of *Judah.* And he took away the ſtrange Gods, and the Idol out of the Houſe of the LORD, and all the Altars that he had built in the Mount of the Houſe of the LORD, and in Jeruſalem, and caſt them out of the City. And he repaired the Altar of the LORD, and ſacrificed thereon Peace-Offerings, and commanded *Judah* to ſerve the LORD GOD of *Iſrael.* Nevertheleſs, the People did Sacrifice ſtill in High Places, yet unto the LORD their GOD only, 2 *Chron.* xxxiii.’

This much I have written concerning *Manaſſeh,* to ſet forth his great and multiplied Tranſgreſſions, with his ſincere and hearty Repentance, and the Fruits thereof, which are ſo manifeſt, that his Salvation hath never been call’d in queſtion by any true *Iſraelite.* Now, if as much can be ſaid of the Truth and Sincerity of *Solomon*’s Repentance, then there will be as little Cauſe to queſtion his Salvation. For as it is not the falling into the Water that drowns, but lying in it; ſo neither is it the falling into Sin that damns, but dying in it.

That

That *Solomon* did not die in his Sins, is very evident, by his Book of *Eccleſiaſtes*, which all allow to have been written by him, after he had backſliden and fallen away fearfully from the LORD his GOD, and therefore it is generally call'd, *His Penitential Book*; by ſome its call'd, Solomon's *Sapiential Sermon of the ſovereign Good, and how to attain it*; by others its ſtiled, *His Sacred Retractions*; by others its entituled, *His Ethicks*, or *Tractate de Sommo Bonno*, compiled and compoſed with ſuch a picked Frame of Words, with ſuch pithy Strength of Sentences, with ſuch a Series of Demonſtrative Arguments, that the ſharp Wit of all the Philoſophers, compared with this Divine Diſcourſe, ſeems to be utterly cold and of ſmall Account, their elaborate Treatiſes of Happineſs to be learned Dotages, and laborious loſs of Time.

How many Opinions there were amongſt them, concerning the chief Good in *Solomon*'s Days is uncertain; divers of them he confuteth in this Book, and that from his own Experience, the beſt School-Dame; but *Varo* (one of the learned'ſt of the *Romans*) reckoneth up Two Hundred and Eighty in his Time, (*Aug. de Civ. DEI*, Lib. 18.) and no wonder, conſidering Man's natural Blindneſs, not unlike that of the *Syrians* at *Dothan*, or that of the *Sodomites* at *Lot*'s Door.

In this Book *Solomon* is ſtiled *The Preacher*, or a Perſon re-united and reconciled to the Church, and in token of Reconciliation to GOD, readmitted by him to this Office in his Church; like as Chriſt ſealed up his Love to *Peter* after his ſhameful Denial of him, by bidding him *feed his Lambs*; and the reſt of the Apoſtles, that had baſely forſaken and fled from him, by ſaying to them after his Reſurrection, 'Peace 'be unto you: As my Father hath ſent me, even 'ſo ſend I you. Receive ye the Holy Ghoſt, *John* 'xx. 21.' *Solomon* was a Preacher of Righteouſneſs, as *Enoch*, *Noah*, and all the LORD's Prophets were.

‘ And moreover becauſe the Preacher was Wiſe, he ‘ ſtill taught the People Knowledge; yea, he gave ‘ good heed, and ſought out, and ſet in order many ‘ Proverbs. The Preacher ſought to find out accept‘ able Words, and that which was written was up‘ right, even Words of truth, *Ecleſ.* xii. 9, 10. His ‘ Words were as Goads, and as Nails faſtned by the ‘ Maſters of Aſſemblies, which are given from one ‘ Shepherd, *Eccleſ.* xii. 11.’

True Penitents will not fail to complain bitterly of the Means and Inſtruments that drew them into the Crimes, whereby they have offended moſt grievouſly: Now the chief and principal Inſtruments of turning away *Solomon*'s Heart (in a great Meaſure) from the LORD his GOD, was Women, and how bitterly does he complain of them in Chap. vii. Ver. 26. of his Book of *Eccleſiaſtes*, in the 25th Ver. ſays he, ‘ I applied mine Heart to know, and to ‘ ſearch, and to ſeek out Wiſdom, and the Reaſon ‘ of Things, and to know the Wickedneſs of Folly, ‘ even of Fooliſhneſs and Madneſs. I made’ a diligent Search to know the Wickedneſs of all Folly in general, and of my own Fooliſhneſs and Madneſs in particular, ‘ And I find more bitter than ‘ Death the Woman whoſe Heart is Snares and Nets, ‘ and her Hands as Bands.’ I the Preacher, I King *Solomon* find it ſo; he found it with a Witneſs; he found it to be not only more bitter than Wormwood and Gall, but more bitter than Death itſelf; he had found it ſo from woeful Experience, and now relates it for a Warning to others.

Whoſe Heart is Snares and Nets.] Hunters Snares; for ‘ the Adultreſs hunteth for the precious Life, *Prov.* vi. 26.’ and the Devil by her hunts for the precious Soul, there being not any thing that hath more enriched Hell than Harlots; all are good Fiſh that comes to theſe Nets, but they are taken alive by the Devil at his pleaſure.

And

And her Hands as Bands.] To captivate and enſlave thoſe that haunt her, as *Dalilah* did *Samſon*, as the Harlot did that ſimple young Man, *Prov.* vii. 22. which *Solomon* ſaith 'went after her as an 'Ox goeth to the Slaughter, or as a Fool to the 'Correction of the Stocks.' And as *Plutarch* ſaith of the *Perſian* Kings, that they were *Captivarum ſuarum Captivi, Captives to their Concubines*, who durſt take the Crown from their Heads, or do almoſt any thing to them, when others might not come near them without being call'd, upon Pain of Death, *Eſther* iv. 11.

But if it be objected, how was it poſſible that *Solomon* could repent, who was concern'd with ſo many ſtrange Women, when he hath affirm'd, *Prov.* ii. 18, 19. that 'the ſtrange Woman's Houſe enclineth to 'Death, and her Paths unto the Dead; ' and that 'none that goeth unto her, return again, neither 'take they hold of the Paths of Life.' That the Harlot's Houſe enclineth to Death, and her Paths unto the Dead, hath been ſufficiently confirm'd, by the woeful Experience of many Thouſands in every Age, as by *Zimri* and *Cozbi*, 'a Prince of a chief 'Houſe among the *Simeonites*,' and a Prince's Daughter, 'that was Head over a People, and of 'a chief Houſe in *Midian*,' who, in the very Act of Venery, were both thruſt through with a Javelin, and ſent to Hell before their Feet was cold, *Numb.* xxv. 6. And Pope *John* the Twelfth, being taken with an Adultereſs, was ſtabbed to Death by her Husband. *Alexander* the Great, and *Otho* the Third, loſt their Lives by their Luſts; but how many (alas!) by this means have loſt their Souls? Fleſhly Luſts (by a ſpeciality) war againſt the Soul.

None that go into her return again.] Some of the Antients have from this concluded, that Adultery is an unpardonable Sin: But our Saviour ſays, 'All manner of Sin and Blaſphemy ſhall be forgiven 'unto Men, but the Blaſphemy againſt the Holy Ghoſt, '*Matth.* xii. 31.' True it is, 'That a Whore is a deep Ditch, and a ſtrange Woman a narrow Pit, *Prov.* xxii. 27. That 'Whoredom, and Wine, and new 'Wine, take away the Heart, *Hoſea* iv. 11.' That ſuch are ſaid to be deſtitute of Underſtanding, and to have loſt even the Light of Nature, *Prov.* vi. 32. *Rom.* i. 28. To be paſt Feeling, and to be given up to a dead and dedolent Diſpoſition, *Eph.* iv. 19. To be Impudent (wherefore alſo they are compared to Dogs, *Deut.* xxiii. 18. 2 *Samuel* iii. 8.) and for moſt part Impeniten, *Eccleſ.* vii. 28. Grace (as one well obſerveth) is ſeated in the Powers of Nature; now carnal Sins diſable Nature, and ſo ſet us at a greater diſtance from Grace, as taking away the Heart, *&c.* Howbeit, all Things are poſſible with GOD, and the Word *None* in the beginning of the 19th Verſe of *Prov.* ii. muſt be underſtood to mean very few, or a very ſmall Number, ſuch as is next to none; for though few have awakened out of this Snare of the Devil, yet ſome have, as *David*; and that Woman, *Luke* vii. 37, 38; and likewiſe *Solomon*, for who elſe can be meant by that *one Man*, he had found a Convert, 'among a Thouſand (but himſelf) 'but a Woman among all thoſe have I not found, '*Eccleſ.* vii. 28.' And who can the Thouſand Women be ſuppoſed to be? But his Seven Hundred Wives, and Three Hundred Concubines, whom no doubt he had been endeavouring to make Proſelites, by turning them from their hateful Idolatry, but could not provail with any of them; One of a Thouſand is next to None, and yet it is One.

Now as every good Tree is known by the Goodneſs of its Fruits, ſo *Solomon*'s Repentance is proved to be ſound, by the bleſſed Fruits aforementioned.. But there are other ways to prove *Solomon*'s Recovery from his Backſliding and Apoſtaſy, As,

Firſt,

Firſt, By his having been one of the LORD's Prophets, all of which are with *Abraham*, *Iſaac* and *Jacob in the Kingdom of God*, Luke xiii. 28. If it be ſaid, How did *Solomon* evidence himſelf to be a Prophet? I anſwer, he propheſied that there ſhould be a general and particular Judgment of all Men, and of all their Thoughts, Words and Actions. 'GOD 'ſhall judge the Righteous and the Wicked. Rejoice, 'O young Man in thy Youth, and let thy Heart 'chear thee in the Days of thy Youth, and walk in 'the Ways of thy Heart, and in the Sight of thine 'Eyes: but know thou, that for all theſe Things 'GOD will bring thee into Judgment. For GOD 'ſhall bring every Work into Judgment, with eve- 'ſecret Thing, whether it be good, or whether it be 'evil, *Ecclef.* iii. 17. xi. 9. xii. 14.'

If it be objected, that *Balaam* was a Prophet, and propheſied many excellent Things which came truly to paſs, and the LORD put Words in his Mouth, and he received Commandment from him, and propheſied according to his Commandment, and after all did not die the Death of the Righteous, neither was his laſt End like theirs, though he prayed that it might be ſo, as may be ſeen, *Numbers* xxiii. xxiv. and xxxi. 8. I anſwer, Though *Balaam* did ſo, he was no more than an Enchanter, and not a Prophet of the LORD's; 'for he loved the Wages of Unrighte- 'ouſneſs, and the Rewards of Divination,' and for ſuch Wages went to curſe the People whom the LORD had bleſſed, 'but was rebuked for his Iniqui- 'ty: the dumb Aſs, ſpeaking with Man's Voice, 'forbad the Madneſs of the Prophet, 2 *Peter* ii. 15, '16 Verſes.'

But the Work of the LORD's Prophets was not altogether in foretelling of future Events, and Things to come, but likewiſe in Teaching and Inſtructing his People how they ſhould demean and carry themſelves in every State and Condition, and this

Balaam was altogether wanting in; but he was not wanting to teach '*Balak*, King of *Moab*, to caſt a Stumbling-Block before the Children of *Iſrael*, to eat Things ſacrificed unto Idols, and to commit Fornication:' for which he was cut off by the Sword of the LORD, in the Hands of the *Iſraelites*, Revel. ii. 14. Numb. xxxi. 8, 16. But *Solomon* being wiſe, therefore he ſtill taught the People Knowledge, *viz.* the Knowledge of GOD, and his Ways, his Writings (which are often referred to by the holy Apoſtle St. *Paul*, in the New Teſtament) make up a very great part of the Old Teſtament; *viz.*

Firſt, His Proverbs, or Maſter Sentences, Maxims, Axioms; received Rules that muſt over-rule Matters, and mightily prevail in the Minds of Men. The Principal (no doubt) they are of thoſe Three Thouſand, mentioned 1 *Kings* iv. 32. being far above Human Praiſe for Weight and Worth.

Secondly, His golden Words, grave and gracious Oracles, contained in his Book of *Eccleſiaſtes*.

Thirdly, The Book of *Canticles*, or his *Song of Songs:* Not a light Love-Song, (as ſome ignorant and prophane People have fooliſhly imagined, and therefore reckoned it no part of the Sacred Canon) but a moſt excellent *Epithalamium*, a very divine Ditty, an heavenly Allegory, a myſtical Marriage-Song, call'd in Chap. i. Ver. 1. *The Song of Songs*, as the GOD of *Iſrael* is called, *The GOD of GODS, and LORD of LORDS*, Deut. x. 17. as Chriſt is call'd, *KING of KINGS, and LORD of LORDS*, Revel. xix. 16. as the moſt holy Place in *Solomon*'s Temple was call'd, *The Holy of Holies*; to the which, the *Jew* Doctors liken this Book, (as they do *Eccleſiaſtes* to the *Holy Place*, and *Proverbs* to the *Court*) to ſignifie that it is the Treaſury of the moſt ſacred and higheſt Myſteries of holy Scripture. It ſtreams out all along, under the Parable of a Marriage, that full Torrent of ſpiritual Love that is betwixt Chriſt and his Church. *This is a great Myſtery*, ſaith that great Apoſtle, *Epheſ.* v. 32. It paſſeth the Capacity of Man to underſtand it in the Perfection of it. Hence the *Jews* permitted none to read this ſacred Song before they were Thirty Years of Age; (for the ſame Reaſon (I preſume) it is, that it is not appointed to be publickly read in the Churches of *England* and *Ireland*.) Let him that reads, think he ſees written over this *Solomon*'s Porch, *Holineſs to the LORD*, *Procul hinc, procul eſte profani, nihil hic niſi caſtum.* If any think this kind of Dealing to be over light for ſo grave and weighty a Matter, let them take heed (ſaith one) that in the Height of their own Hearts they do not proudly cenſure GOD and his Order, who in many Places uſeth the ſame Similitude of Marriage, to expreſs his Love to his Church by, and interchangeably her Duty toward him, as *Hoſ.* ii. 19. 2 *Cor.* xi. 2. *Epheſ.* v. 22, 23, 24, 25. where the Apoſtle plainly alludeth and referreth to this *Song of Songs* in ſundry Paſſages, borrowing both Matter and Frame of Speech from hence.

Secondly, *Solomon*, before he revolted, was a great Favourite of Heaven: His Mother call'd him *Lemuel*, becauſe GOD had owned him, *Prov.* xxxi. 1. *The LORD loved him: And he loved the LORD, walking in the Statutes of* David *his Father*, 2 Sam. xii. 24. 1 *Kings* iii. 3. *The LORD ſaid unto* David, *when thy Days be fulfilled, and thou ſhalt ſleep with thy Fathers, I will ſet up thy Seed after thee, which ſhall proceed out of thy Bowels, and I will eſtabliſh his Kingdom. He ſhall build an Houſe for my Name, and I will ſtabliſh the Throne of his Kingdom for ever. I will be his Father, and he ſhall be my Son: If he commit Iniquity, I will chaſten him with the Rod of Men, and with the Stripes of the Children of Men: But my Mercy ſhall not de-*

part away from him, as I took it from Saul, *whom I put away before thee*, 2 Sam. vii. 12, 13, 14, 15.

Solomon having ſuch exceeding great and precious Promiſes for his Security, how could it be poſſible that he ſhould die in Apoſtaſy? It was as impoſſible as for ‘Seed-time and Harveſt, and Cold and Heat, and Summer and Winter, and Day and Night to ceaſe, while the Earth remaineth, *Gen.* viii. 22.’ *Solomon* was comprehended in the Covenant of Grace, and was his Son to whom *David* the Son of *Jeſſe* was but a Tipe or Figure, to whom GOD hath promiſed ‘I will make him my Firſt-born, higher than the Kings of the Earth. My Mercy will I keep for him for ever more, and my Covenant ſhall ſtand faſt with him. His Seed alſo will I make to endure for ever, and his Throne as the Days of Heaven. If his Children forſake my Law, and walk not in my Judgments: If they break my Statutes, and keep not my Commandments: Then will I viſit their Tranſgreſſion with the Rod, and their Iniquity with Stripes. Nevertheleſs, my loving Kindneſs will I not utterly take from him, nor ſuffer my Faithfulneſs to fail. My Covenant will I not break, nor alter the Thing that is gone out of my Lips. Once have I ſworn by my Holineſs, that I will not lie unto *David.* His Seed ſhall endure for ever, and his Throne as the Sun before me. It ſhall be eſtabliſhed for ever, as the Moon, and as a faithful Witneſs in Heaven, *Pſalm* lxxxix. 29, 30, 31, 32, 33, 34, 35, 36, 37 Ver.’

GOD promiſed to *David*, the Son of *Jeſſe*, that if *Solomon* his Son did commit Iniquity, he would chaſten him with the Rod of Men, and with the Stripes of the Children of Men (*i. e.* with a temporal Affliction) but engages his Veracity, that his Mercy ſhould not depart away from him, as he took it from *Saul*, whom he put away from before *David*. GOD's Mercy departed eternally from *Saul*, for

for in his Diſtreſs he did not go to GOD to implore his Mercy, but to a Witch, to conſult her, concerning his Fate; ſhe conſults the Devil, who tells him that he ſhould be with him to Morrow, which came truly to paſs; for the next Day *Saul* being worſted and wounded in Battle by the *Philiſtines*, fell upon a Sword, and ſlew himſelf, to prevent his being thruſt through and abuſed by the uncircumciſed *Philiſtines*, 1 *Sam.* xxviii and xxxi.

From what hath been ſaid, it may very reaſonably be inferr'd, that *Solomon* was one of his Sheep, who hath ſaid, 'My Sheep hear my Voice, and I 'know them, and they follow me. And I give un-'to them eternal Life, and they ſhall never periſh, 'neither ſhall any pluck them out of my Hand. 'My Father, which gave them me, is greater than all: 'and none is able to to pluck them out of my 'Father's Hand, *John* x. 27, 28, 29, 30 Ver.

To Conclude, I hope I have effectually proved, that *Solomon*'s Kingdom was the moſt pleaſant, moſt flouriſhing, and beſt fortified Kingdom in the World; his People the moſt honourable and happy People that ever were ſubject to any earthly Prince: *Jeruſalem* the moſt admirable City, and the Temple built by *Solomon* the moſt wonderful Houſe the World ever ſaw; and that neither *Nebuchadnezar*, that famous Head of Gold, nor the Son of *Philip* (King of *Macedon*) and *Olympia's*, *viz.* *Alexander*, the great Conquror of Nations, nor yet any of the *Roman* Emperors, in all their Glory, were equal in Glory to *Solomon*, who was bleſt, not only in his Life, but alſo in his Death, which was better to him than his Birth-Day; which all that firmly believe the Truth of the *Sacred Writings*, muſt acknowledge to be undeniably true; and that there is as little cauſe to queſtion the Truth and Certainty of his eternal Felicity, as that of *Manaſſeh*, which no true *Iſraelite* ever doubted of.

Soli DEO Gloria in Æternum.

A
TREATISE
CONCERNING
GOLD and SILVER,
AND THE
Specifick Gravity thereof;
WITH EASY
RULES,
AND
EXAMPLES
FOR
Trying of Gold and Silver,
AND
For finding their PURITY exactly without Melting, and the WEIGHT and VALUE of both without Weighing or Reckoning either.

All being perform'd by Geometrical Proportion,
By GEORGE RENOLDS.

Printed by *Joſeph Penn*, Bookſeller, in *Wine-Street*,
Briſtol. M DCC XXI.

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A
TREATISE
CONCERNING
Gold and Silver, &c.

BEcauſe different kinds of Gold and Silver hath frequently been mentioned in the Book aforegoing, that the Reader may the better underſtand the ſame, I have annexed to it the following TREATISE, which will be profitable and very entertaining to the Ingenious.

CHAP. I.

Concerning the Regulation of the Coin of Great Britain, *and its Purity.*

THE coin'd Silver in *Great Britain* hath been, (for a long Time) and is now regulated by *Troy* Weight; for about 200 Years before the Conqueſt, *Osbright*, a *Saxon* Prince, being then King of *England*, valued the Penny Weight of coin'd Silver at a Penny, and the Ounce at Twenty Pence, and

and King *Edward* the Iſt, ſince the *Norman* Conqueſt, eſtabliſhed a certain Standard for the Silver Coin, in this Manner: 24 *gr.* make 1 *d.* Weight, 20 *d.* Weight 1 z. and 12 z. one Pound Sterling; of theſe 12 z. 11 z. 2 *d.* Weight was to be of fine Silver, and 18 *d.* Weight of Allay the Minter added, ſo that antiently a Pound Sterling of Silver was a Pound *Troy*, whereas now a Pound Sterling is but the third part of the Weight of a Pound *Troy*: For in regard of the advancing of Money in Foreign Countries, Queen *Elizabeth* cauſed the Value of the Ounce *Troy* of coined Silver to be advanced to 5 *s.* and the Sixpence and Shilling proportionably; and ſo it continues throughout all Parts of *Great Britain*, without Alteration; for ſince the Union of the Two Kingdoms, the Coin and its Value in *Scotland* is the ſame with *England.*

No Money in any Mint is made of pure Silver, Silver in its purity being almoſt as ſoft as Lead, and therefore is not ſo fit either for Coin or Utenſils, makes it neceſſary to harden it with Copper, which is therefore call'd *Allay*, becauſe it makes the Silver to abate of its Fineneſs; and Money is ſaid to be more or leſs fine, in proportion to the Quantity of Allay intermix'd with a certain Quantity of pure Silver; thus, of 1 *lb.* of Silver, if 2 z. thereof be Copper, the Silver is ſaid to be 10 z. fine, and is not ſo Valuable as that which is 11 z. fine, for that has but 1 z. of Allay in 1 *lb.* of it.

Hence it is evident, that *Britiſh* Silver being 11 z. 2 *d.* Weight fine, having but 18 *d.* Weight of Allay in 12 z. of Bullion, 1 *lb.* of it is more valuable than 1 *lb.* of that which is 10 z. fine, as the *French*, or 9 z. fine, as the *Dutch.*

Gold, in its Purity, is likewiſe ſo flexible, that it is not ſo fit either for Coin or Utenſils (except to beat

beat into Leaf-Gold) makes it neceſſary to harden it, by mixing a ſmall Quantity of Silver or Copper therewith; for the Allay of ſome Gold Coin is all Silver, as the Guinea Gold; and ſome all Copper, which renders the Gold Coins ſome more White, and ſome more Yellow.

As the Goldſmiths and Minters eſtimate the Fineneſs of Silver by *Troy* Weight, ſo they diſtinguiſh the Fineneſs of Gold by the *Carrat*, or *Carract*, (which are the ſame) which is not any certain Quantity or Weight, but the Twenty Fourth Part of any Quantity or Weight, and the Carrat, or Carract, is divided into Twenty Four equal Parts, called, *Carrat Grains*, or Grains of a Carract; and the Carrat Grain is divided into divers Parts, as, *Halves*, *Quarters*, &c.

So when a Pound *Troy* is thus divided, the Carract is 10*d.* Weight, or half an Ounce, and the Grain of a Carract is 10 *gr.*

When the Goldſmiths, or Minters, make Trial of the fineneſs of Gold, (which they call making an Eſſay) they take a ſmall Quantity of ſuch Gold as they intend to try, and weigh it very exactly, and then put it in a Crucible and melt it over a ſtrong Fire, ſo long, that if there be any Allay in it, that Allay may be conſumed and burnt up, and only the pure Gold remain, (which is of ſuch a Nature, and of ſo great Purity, that it will endure the Fire without waſting, although it be kept continually melted, and therefore ſome of the antient Philoſophers have ſuppoſed the Sun to be a Globe of melted Gold); when it is cold they weigh it very exactly again, and if it have not loſt any thing of the firſt Weight, they conclude it is pure Gold; but if it have loſt one Twenty Fourth Part, they call it, *Twenty Three Carracts fine*, or One Carract better than the Standard: If the Loſs be Two Parts of Twenty Four, they call it *Twenty Two Carracts fine, (which is the Standard for coin'd Gold in* Great Britain:) If it have loſt Three Parts of Twenty Four, its *Twenty One Carracts fine*, or One Carract worſe than the Standard, *&c.*

CHAP. II.

Concerning Fluids and Solids, and the Specifick Gravity of Solid Bodies; with Rules for finding the Weight and Value of Gold and Silver exactly, without Weighing or Reckoning of either.

THAT the different Gravities of Bodies, whether fluid or ſolid, ariſes from their containing a greater or leſs Quantity of Matter in the ſame Space, is frequently obſerv'd and prov'd by Dr. *William James Graveſande*, Profeſſor of *Mathematicks* and *Aſtronomy* in *Leyden*, and Fellow of the Royal Society of *London*, in his *Mathematical Elements of Phyſicks*, prov'd by Experiments.

DEFINITIONS.

I. That Body is called a Fluid, whoſe Parts yield to any Impreſſion whatever, and by yielding are very eaſily put into Motion among themſelves. From whence it follows, that Fluidity ariſes from the

the Parts not ſticking cloſely together; and their Motion not being hindred by any Roughneſs of the Superfices of the Parts, as in the Caſe of Duſt.

2. The Particles, of which Fluids conſiſt, are of the ſame Nature, and have the ſame Properties with the Particles of other Bodies. For Fluids are often changed into Solids, when there is a cloſer Coheſion of their Parts, as in Ice: On the other Hand, Metals, when melted down, gives us Examples of a Solid being changed into a Fluid.

Fluids do alſo agree with Solids in this, that they conſiſt of heavy Particles, having Gravity proportionable to their Quantity of Matter, whereſoever ſituated. If that Gravity be not ſenſible in the Fluid itſelf, it is becauſe the lower Parts ſuſtain the upper, and keep them from deſcending; but that the Gravity itſelf is not therefore deſtroy'd, appears from hence; that a Fluid contain'd in a Veſſel depreſſes a Ballance, on which the Veſſel hangs, in proportion to its Quantity.

3. The Quantity of Matter that is in a Body, conſidered with regard to the Bulk of that Body, that is, to the Space it takes up, is called its *Denſity*.

A Body is ſaid to have double or treble, *&c.* the Denſity of another Body, when being equal in Bulk, it contains double or treble, *&c.* the Quantity of Matter.

4. A Body is ſaid to be Homogeneous, when its of the ſame Denſity in every part of it.

5. Heterogeneous, when there are different Degrees of Denſity in different Parts of it.

6. The Gravity of a Body, conſider'd with relation to its Bulk, is called the *Specifick Gravity*. The

Specifick Gravity is ſaid to be double, when the Weight is double, tho' the Bulk is the ſame.

Therefore the Specifick Gravities and Denſities of Bodies that are Homogeneous, are in the ſame *Ratio*, and are to one another as their Weights, when their Bulk is equal. If Homogeneous Bodies be of the ſame Weight, the leſs their Bulk is, the greater will their Denſity be; and while their Weight continues the ſame, their Bulk decreaſes in the ſame Ratio that their Denſity increaſes, therefore in that Caſe the Bulks are reciprocally as the Denſities.

An Enquiry about the different Gravities of Metals, and other Bodies, is not only a Work of Curioſity, but alſo of very good Uſe upon ſeveral Occaſions; therefore ſeveral Authors have given us ſuch Proportions of Difference of their Weights, as they are ſaid to have one to another, ſuppoſing them to be of the ſame Magnitude; ſome of which ſhall be inſerted here.

Firſt, *Henry van Etten*, in his *Mathematical Recreations*, printed *Anno* 1633, ſets down the Proportion of their Weight thus: *Gold* 1875, *Lead* 1165, *Silver* 1040, *Copper* 910, *Iron* 810, *Tin* 750, *Water* 100.

Secondly, *Alſted*, in his *Encyclopædia*, printed 1649, hath them thus: *Gold* 1875, *Quickſilver* 1500, *Lead* 1165, *Silver* 1040, *Copper* 910, *Iron* 806, *Tin* 750, *Honey* 150, *Water* 100, *Oil* 90.

Thirdly, The Ingenious Mr. *Oughtred*, in his *Circles of Proportions*, printed *Anno* 1660, hath their Proportions according to the Experiments of *Marinus Ghetaldi*, in his Tract call'd, *Archimedes Promotus*, thus: *Gold* 3990, *Quickſilver* 2850, *Lead* 2415, *Silver* 2170, *Braſs* 1890, *Iron* 1680, *Tin* 1554.

Fourthly, In the *Philoſophical Tanſactions* (Number 169 and 199) there is an Account of a great many Experiments of this kind, from whence theſe following are collected, *viz. Gold* 18888, *Mercury* 14019, ***Lead*** 11345, *Silver* 11087, *Copper* 8843, *Hammer'd Braſs* 8349, *Caſt Braſs* 8100, *Steel* 7852, *Iron* 7643, *Tin* 7321, *Pump-Water* 1000. Theſe laſt *Proportions*, being approved of and publiſhed by Order of the *Royal Society*, ſeem to be unqueſtionably true; nevertheleſs, becauſe they differ ſo much from the before-mentioned, (and thoſe from one another) the Ingenious Mr. *Ward*, Profeſſor of the Mathematicks in the City of *Cheſter*, having for his own Satsfaction made ſeveral Exp riments of that kind; and having (as it's generally believed) obtained the Proportions of Weight, that one Body bears to another of the ſame Bulk or Magnitude, as nicely as the Nature of ſuch Matter, as can be be contracted or brought into a leſſer Body (*viz.* either by Drying, Hammering, or otherwiſe) will admit of; of which, ſo many as concerns this Treatiſe, are as follows:

A Cubick, or Solid Inch of		*Oz. Troy.*		*Oz. Averdupois.*
Pure Gold	is	10.359273	=	11.365602
Standard Gold		9.962625	=	10.930422
Quickſilver		7.384411	=	8.101753
Lead		5.984010	=	6.553885
Pure Silver		5.850035	=	6.418324
Standard Silver		5.556769	=	6.096569
Roſe Copper		4.747121	=	5.208369
Plate Braſs		4.404273	=	4.832116
Caſt Braſs		4.272409	=	4.630300
Steel		4.142127	=	4.544505
Common Iron		4.031361	=	4.422979
Block Tin		3.861519	=	4.236638
Sea-Water		0.542742	=	0.594894
Common clear Water		0.527458	=	0.578697

This Table contains the *Specifick Gravity*, or *Weight* of a *Cubick* or *Solid Inch* of various ſorts of Bodies, both in *Troy* and *Averdupois* Ounces, and in decimal Parts of an Ounce.

From hence it will be eaſy to determine the Weight of any propoſed Quantity of the ſame Matter, without weighing of it; and when its Weight is found, its Value may readily be found, and this is done by putting the propoſed Quantity into a Veſſel fill'd full with common clear Water, or with Sea-Water, and weighing the Water that runs over the Veſſel; for which Purpoſe, this is

The RULE.

As the Weight of a Cubick Inch of common clear Water, or of Sea-Water, is to the Weight of a Cubick or Solid Inch of the propoſed Quantity, ſo is the Weight of the Water that runs over the Veſſel (fill'd with Water to the Brim) by the putting the propoſed Quantity into it, to the ſaid Quantity, i. e. *to the Weight of the ſaid Quantity.*

To find the Weight and Value of any Quantity of Gold or Silver, equal in Fineneſs to the Standard of *Great Britain*, without weighing or reckoning it.

The RULE is,

As the Weight of a Cubick Inch of common clear Water, or of Sea-Water, is to the Weight of a Cubick Inch of Standard Gold or Silver; ſo is the Weight of the Water that runs over the Veſſel, by putting in of the Gold or Silver into the Water (when the Veſſel is brim full of Water) to the Weight of the Gold or Silver put into the Veſſel.

Secondly, As the Weight of 1 z. of Gold or Silver is in Proportion to its Value, ſo is the Weight of any other

other Quantity of Gold or Silver in proportion to its Value.

EXAMPLE Firſt.

Suppoſe a Quantity of Silver, of the Coin of *Great Britain*, put into a Veſſel fill'd to the Brim with common clear Water, and the Quantity of Silver cauſeth 94.9217 z. *Troy* Weight of the Water to run over the Veſſel; the Queſtion is, What is the Weight and Value of the Silver put into the Veſſel?

To perform this Operation, ſay, As .527458 z. *Troy* (the Weight of one Inch of common clear Water) is to 5.556769 z. *Troy* (the Weight of one Cubick Inch of Standard Silver) ſo is 94.9217 z. *Troy* (the Water that run over the Veſſel when the Silver was put into it) to 999.9999 z. *Troy*, the Weight of the Silver put into the Water, which does not want $\frac{1}{10000}$ z. of being 1000 z. and therefore may truly be reckoned 1000 z. which is equal to 1000 Crowns, or 250 *l.* Sterling. See the Operation following,

	z.		z.		z.		z.
As	.527458	:	5.556769	::	94.9217	:	999.9999.

EXAMPLE Second.

Suppoſe a Quantity of Standard Silver, of the Coin of *Great Britain*, when put into a Veſſel fill'd to the Brim with common clear Water, cauſeth 128.57158 z. *Troy* of the Water to run over the Veſſel; what is the Weight and Value of the Silver put into the Veſſel?

ANSWER.

The Weight is 1354½ z. *Troy*, and its Value 338 *l.* 12 *s.* 6 *d.*

As.527458z. *Troy* (the Weight of 1 Inch of common clear Water) is to 5.556769z. *Troy* (the Weight of one Cubick Inch of Standard Silver) ſo is 128.57158z. *Troy* (the Weight of the Water that run over the Veſſel by the putting in of the Silver) to 1354.5 z. *Troy*, the Weight of the Silver put into the Water. And,

As 1 z. *Troy* of Standard Silver is to 5 *s.* Sterling, (its Value) ſo is 1354.5 z. *Troy*, of the ſame Silver, to 6772.5 *s.* Sterling, its Value, which is equal to 338 *l.* 12 *s.* 6 *d.* Sterling.

z. z. z. z.
As .527458 : 5.556769 :: 128.57158 : 1354.5

z. s. z. s.
As 1 : 5 :: 1354.5 : 6772.5

By the Rules and Examples aforegoing, ſuch as are not acquainted with the Rule by which the Weight and Value of Silver is found, (call'd *The Golden Rule*, or *The ſingle Rule of Three in a direct Proportion*) who can do no more than Multiply and Divide, and yet deſire to perform Operations of this kind exactly, may remember what follows, and they will do what they deſire with the greateſt Exactneſs, *viz.* That there are always three Numbers made uſe of in the Operation, and the firſt of the three (which is ſtill writ neareſt the Left Hand) muſt always be .527458z. *Troy*, (which is the Weight of one Cubick Inch of common clear Water,) the ſecond 5.556769z. *Troy* (which is the Weight of one Cubick Inch of Standard Silver) and the Weight of the Water that runs over (by putting the Silver into the Veſſel fill'd to the Brim) muſt be the third Number; the Numbers being ſo plac'd, multiply the ſecond and third Numbers into one another, and divide their Product by their firſt Number, the Quotient

Quotient or fourth Number will be the Weight of the Silver put into the Water in Ounces *Troy*.

But if the Silver be put into a Veſſel fill'd up to the Brim with Sea-Water, then 0.542742 *z. Troy* (the Weight of one Cubick Inch of Sea-Water) muſt be the firſt Number; and 5.556769 *z. Troy* (the Weight of one Cubick Inch of Standard Silver) the ſecond; and the Weight of the Water that runs over the Veſſel, by the putting in of the Silver, the third Number; which being multiplied into the ſecond Number, and the Product divided by the firſt Number, the Quotient (which is the fourth Number) will be the Weight of the Silver put into the Veſſel, in Ounces *Troy*, as the ſecond Number was.

To find the Value of the Silver put into the Water, the Weight being found.

Make 1 *z. Troy* the firſt, 5 *s.* the ſecond Number, and the Weight of the Silver whoſe Value is ſought the third Number; which being multiplied into the ſecond, the Product (which is the fourth Number) will be the Value of the Silver in Shillings Sterling; divide the Product by Twenty, and the Quotient will be Pounds Sterling.

When the Water that runs over is weighed, it will be moſt convenient to weigh it with Pound-weights, Ounces, Penny-weights, Grains, half Grains, and quarter Grains, and reduce all the Pound-weights to Ounces, and make the Penny-weights, Grains, *&c.* a vulgar Fraction of an Ounce; then reduce the vulgar Fraction to a decimal Fraction, by the reſpective Rule in the Introduction, and make the Ounces, and that decimal Fraction of an Ounce, the third Number, and proceed according to the Directions aforegoing.

EXAMPLES *of* GOLD.

EXAMPLE First.

Suppoſe a Quantity of Gold, of the Coin of *Great Britain*, put into a Veſſel fill'd to the Brim with common clear Water, and the Gold put into the Water cauſeth 7.1143 z. *Troy* of the Water to run over; the Queſtion is, What is the Weight and Value of the Gold put into the Water?

ANSWER.

Its Weight is 134.37487 z. *Troy* equal to 134 z. 7 *dw.* 12*gr.* and its Value 525 *l.* Sterling, equal to 500 Guineas.

To reſolve this Queſtion, ſay,

As .527458 z. *Troy* (the Weight of one Cubick Inch of common clear Water) is to 9.962625 z. *Troy* (the Weight of a Cubick Inch of Standard Gold of *Great Britain*) ſo is 7.1143 z. *Troy* (the Weight of the Water that run over the Veſſel, when the Gold was put into it) to 134.37487 z. *Troy*, the Weight of the Gold put into the Water.

The Weight of the Gold being known; to find its Value, ſay,

As 1 z. *Troy* of Standard Gold, is to 78.1395 *s.* (equal to 3 *l.* 18 *s.* 1.674 *d.* Sterling) ſo is 134.37487 z. *Troy* of the ſame Gold, to 10499.985144365 *s.* equal to 524 *l.* 19 *s.* 11 *d.* 3.28 *qd.* which does not want one Farthing of 525 *l.* Sterling. See the Operations below.

z. z. z. z.
As .527458 : 9.962625 :: 7.1143 : 134.37487, and

As

	z.	*s.*	*z.*	*s.*
As	1 :	78.1395 ::	134.37487 :	10499.985.

Note, 78.1395 *s.* or 3 *l.* 18 *s.* 1 *d.* 2.696 *qd.* is the Value of 1 *z.* *Troy* of Standard Gold, at the Rate of one Guinea for 21 *s.* a Guinea weighing 5 *dw.* 9 *gr.* and

	dw.	*gr.*	*s.*	*z.*	*l.*	*s.*	*d.*	*qd.*
As	5 ··	9 :	21 ::	1 :	3 ··	18 ··	1 ··	2.696 equal

to 78.1395. *s.*

EXAMPLE Second.

Suppoſe a Quantity of Standard Gold of *Great Britain*, put into a Veſſel fill'd to the Brim with common clear Water, cauſeth 12 *z.* 1 *dw.* 21.264 *gr.* of the Water to run over the Veſſel, the Veſſel remaining full to the Brim with the Water; the Queſtion is, What is the Weight and Value of the Gold put into the Water?

ANSWER.

The Weight is 228.437 *z.* *Troy*, equal to 228 *z.* 8 *dw.* 18 *gr.* very near; and the Value 892 *l.* 10 *s.* Sterling, equal to 850 Guineas.

To reſolve this Queſtion, ſay,

As .527458 *z.* *Troy* (the Weight of one Cubick Inch of common clear Water) is to 9.962625 *z.* *Troy* (the Weight of a Cubick Inch of Standard Gold) ſo is 12.0943 *z.* *Troy*, (equal to 12 *z.* 1 *dw.* 21.264 *gr.* the Weight of the Water that run over the Veſſel

Veſſel, by the putting in of the Gold into it) to 228.437 z. *Troy*, (the Weight of the Gold put into the Water) which wants but $\frac{1}{100}$ *gr.* of being 228 z. 8 *dw.* 18 *gr.* and

As 1 z. *Troy* is to 78.1395 *s.* (which is equal to 3 *l.* 18 *s.* 1 *d.* 2.696 *qd.* the Value of 1 z. *Troy* of Standard Gold) ſo is 228.437 z. to 17849.9529615 *s.* which does not want 3 *qd.* of 850 Guineas. See the Operations below.

$$\overset{z.}{\text{As } .527458} : \overset{z.}{9.962625} :: \overset{z.}{12.0943} : \overset{z.}{228.437}$$

$$\overset{z.}{\text{As } 1} : \overset{s.}{78.1395} :: \overset{z.}{228.437} : \overset{s.}{17849.9529615}$$

If the Reader, who can do no more than Multiply and Divide, deſire to find the Weight and Value of Standard Gold: For the finding the Weight, this is

The RULE.

Write .527458 z. Troy *(the Weight of one Cubick Inch of common clear Water) in the firſt Place*; 9.962625 z. Troy *(the Weight of one Cubick Inch of Standard Gold) in the ſecond Place, and the Weight of the Water that runs over, in the third Place: The Numbers being ſo placed, multiply the ſecond and third Numbers into one another, and divide their Product by the firſt Number, and the Quotient, which is the fourth Number, will be the exact Weight of the Gold put into the Water.* To find its Value, this is

The

The RULE.

Write 1 z. *in the firſt Place, and* 78.1395 s. *in the ſecond, and the Weight of the Gold, whoſe Value is ſought, in the third Place; and multiply the ſecond and hird Numbers into one another, and the Product will e the Value of the Gold (whoſe Weight is writ in he third Place) in Shillings.*

By what has been ſaid for finding the Weight f Gold and Silver in *Troy* Weight, the Reader vill readily perceive how it is to be found in *Averdupois* Weight.

This will be of excellent Uſe to try the Purity of ſolid Gold and Silver without melting, if he Weight be exactly known, which is what has een chiefly intended, and moſt of what is writ n this Chapter is only an Introduction to it.

CHAP. III.

To try the Purity of Gold and Silver, and to find the Value of both after Tryal.

THERE is not any Metal that is ſo ponderous or weighty as Gold, therefore, if a Pound-weight or an Ounce of it be put into a Veſſel fill'd to the Brim with Water, it will cauſe leſs of the Water to run over han a Pound or an Ounce of any other Metal will do, if it be put into the ſame Water; and there is not any thing, except Gold, Quickſilver and Lead, that is ſo weighty as pure Silver, or Standard Silver, which can hardly be mixed with Lead or Quickſilver, without being readily diſcovered; and pure Silver, or Standard Silver, if 1 *lb.* or 1 z. of it be put into a Veſſel fill'd to the Brim with Water, will cauſe leſs of the Water to run over the Veſſel, than the ſame Weight of Silver, that has more than 18 *dw.* of Copper, Braſs, or Block-Tin in 1 *lb.* weight of it, and proportionably to any greater or leſſer Weight.

To find by putting any piece of ſolid Gold or Silver Plate, or any Quantity of Gold or Silver Coin, (whoſe Weight is known) that differs from the Standard, into a Veſſel fill'd with Sea-water, or with common clear Water, how much it is better or worſe than the Standard, which hath 22 Carracts of pure Gold and 2 Carracts of Allay in 1 z. or in any other Weight that is divided into 24 equal Parts, and 11 z. 2 *dw.* of pure Silver and 18 *dw.* of Allay in 1 *lb.*

Before this can be done, ſuch as deſire to make Experiment muſt know how to find the Quantity of Water that would run over a Veſſel, by the putting in of any ſuppoſed Weight of Standard Gold or Silver into a Veſſel, fill'd to the Brim with common clear Water, or with Sea-water; for which purpoſe, this is

The RULE.

Firſt, *Divide the Number of Ounces and decimal Parts of an Ounce (if there be any thing over Ounces) in the ſuppoſed Weight of Gold or Silver that is equal to the Standard, by the Ounces and decimal Parts of an Ounce that is in one Cubick Inch of Standard Gold or Silver, the Quotient will be the Cubick Inches of Water that would run over the Veſſel by the putting in of the ſuppos'd Quantity of Standard Gold or Silver.*

Secondly, To find the Weight of the Water that runs over, by the putting in of the ſuppoſed Quantity of Standard Gold or Silver, this is

The RULE.

As one Cubick Inch is to .527458 z. Troy, *(the Weight of one Cubick Inch of common clear Water) ſo is the Cubick Inches of Water that would run over, by the puting in of the ſuppoſed Quantity of Standard Gold or Silver, to the Weight of that Water.*

EXAMPLE Firſt.

Suppoſe 2000 z. *Troy* of Standard Silver, put into a Veſſel fill'd to the Brim with common clear Water; it is required how much the Water that runs over will weigh?

ANSWER.

189.8434 z. *Troy*.

Divide the 2000 z. of Standard Silver by 5.556769 z. *Troy* (the Weight of one Cubick Inch of Standard Silver) the Quotient will be 359.92138, the Cubick Inches of Water that would run over the Veſſel, by the putting in of the 2000 z. *Troy* of Standard Silver.

To find the Weight of the Water that would run over, ſay,

As one Cubick Inch of Water is to .527458 z. *Troy*, (its Weight) ſo is 359.92138 Inches of Water to 189.8434 z. *Troy*, the Weight of the Water. See the Operations following.

5.556769)

z. z. *Inches.*
5.556769) 2000.000000000 (359.92138

Inch. z. *Inches.* z.
As 1 : .527458 :: 359.92138 : 189.8434, &c.

EXAMPLE Second.

Suppoſe 228.4375 z. *Troy* of Standard Gold put into a Veſſel fill'd to the Brim with common clear Water; it is required what the Water would weigh that would run over by the putting in of the Gold?

ANSWER.

12.0943 z. *Troy.*

Divide the 228.4375 z. *Troy* of Standard Gold by 9.962625 z. *Troy* (the Weight of one Cubick Inch of Standard Gold) the Quotient will be 22.92944, the Cubick Inches in 228.4375 z. *Troy* of Standard Gold.

To find the Weight of the Water that would run over, by the putting in of the Gold, ſay,
As one Cubick Inch of Water is to .527458 z. *Troy*, its Weight, ſo is 22.92944 (the Cubick Inches of Water that would run over, by the putting in the 228.4375 z. *Troy* of Standard Gold) to 12.0943 z. *Troy*, the Weight of that Water. See the Operations following.

z. z. *Inches.*
9.962625) 228.43750000000 (22.92944

	Inch		*z.*		*Inches.*		*z.*	
As	1	:	.527458	::	22.92944	:	12.094316,	&c.

To find how much any piece of ſolid Gold or Silver Plate, or any Quantity of coin'd Gold or Silver, that differs from the Standard, is better or worſe than the Standard, the exact Weight thereof being given. This is

The RULE.

Firſt, *Find the Weight of the Water that would run over, by the putting a Quantity of Standard Gold or Silver into Water, that is exactly equal in Weight to the Gold or Silver you intend to try.*

Secondly, *Say, If the putting ſo much Gold that is* 22 *Charracts fine into Water, cauſeth ſo much of the Water to run over; How fine is that Gold that cauſeth ſo much Water to run over, the Weight being exactly the ſame with that which is* 22 *Carracts fine?*

Note, If the Gold to be tried cauſed more Water to run over than ſo much of Standard Gold, it is worſe than the Standard; if it cauſeth leſs to run over, it is better than the Standard.

EXAMPLE Firſt.

Suppoſe 134 z. 7 *dw.* 12 *gr.* of Standard Gold (that is Gold 22 Carracts fine) be put into a Veſſel fill'd to the Brim with common clear Water, it will cauſe 7.1143 z. *Troy* of that Water to run over; How fine is that Gold that 134 z. 7 *dw.* 12 *gr.* thereof cauſeth 8 z. *Troy* of the ſame Water to run over?

ANSWER

ANSWER.

19.564325 Carracts fine.

z. *Carracts.* z.
7.1143——22——8
22

142286
142286

8) 156.514600

Anſ. 19.564325 *Carracts.*

More Water than 7.1143 z. runs over, therefore the Gold is worſe than the Standard, and ſo is leſs than 22 Carracts fine; therefore the greater Extreme is the Diviſor, and the Operation is perform'd by the Rule of Three Inverſe.

To find how much the 134 z. 7 *dw.* 12 *gr.* of Gold 19.564325 Carracts fine is leſs valuable than ſo much of pure Gold, *i. e.* Gold 24 Carracts fine; ſubſtract 19.564325 from 24, the Difference will be 4.435675 Carracts of pure Gold.

Therefore ſay,
If 24 Carracts of Gold be worth 4 *l.* Sterling, what will 4.435675 Carracts of the ſame Gold be worth? That is, if 1 z. of Gold 24 Carracts fine be worth 4 *l.*

ANSWER.

.7392 *l.* = to 14 *s.* 9¼ *d.* and ſo much 1 z. of Gold of 19.564325 Carracts fine, is leſs valuable than 1 z. of pure Gold.

Subſtract

Subſtract 14*s.* 9¼*d.* from 4*l.* the Difference will be 3*l.* 5*s.* 2¾*d.* which is the Worth of 1z. of Gold 19.564325 Carracts fine.

To find the Worth of the 134z. 7*dw.* 12*gr.* of Gold, 19.564325 Carracts fine, ſay,

If 1z. of Gold be worth 3*l.* 5*s.* 2¾*d.* what is 134z. 7*dw.* 12*gr.* of the ſame Gold worth?

The Anſwer will be 438*l.* 5*s.* 2*d.* See the Operation following:

z.		*l.*		*s.*		*d.*		*z.*		*dw.*		*gr.*		*l.*		*s.*		*d.*
1	:	3	..	5	..	2¾	::	134	..	7	..	12	:	438	..	5	..	2

EXAMPLE Second.

Suppoſe 228z. 8*dw.* 18*gr.* of Gold, 22 Carracts fine (that is Standard Gold) be put into a Veſſel fill'd to the Brim with common clear Water, it will cauſe 12z. 1*dw.* 21¼*gr.* of that Water to run over; the Queſtion is, How fine is that Gold that the putting in of 228z. 8*dw.* 18*gr.* into the ſame Water, cauſeth 11½z. of that Water to run over?

ANSWER.

23.1369 Carracts fine.

Turn the 1*dw.* 21¼*gr.* into the Decimal Part of an Ounce, it will be .0943z. and the Operation will be as follows:

```
        z.          Carracts.        z.
     12.0943————————22————————11.5
          22
     ——————————
      24 1886
     241 886
     ——————————— Carracts.
11.5) 266.07460 (23.1369
      230 .....
     ————————
       360
       345
     ————————
       157
       115
     ————————
       424
       345
     ————————
       796
       690
     ————————
       1060
       1035
     ————————
         25
```

Leſs Water than 12 z. 1 *dw.* 21¼ *gr.* or (which is the ſame) than 12.0943 z. runs over, therefore the third Term is the Diviſor, and ſo the Operation is perform'd by the ſingle Rule of Three Inverſe; for that Gold that cauſes leſs Water to run over than ſo much of Standard Gold, muſt be more Carracts fine than Standard Gold.

To

To find how much the 228 z. 8 *dw.* 18 *gr.* of Gold, that cauſes 11½ z. of the Water to run over, is finer than ſo much of Standard Gold.

Subſtract 22 Carracts from the 23.1369 Carracts in Quotient, the Difference will be 1.1369 Carract; and ſo much 1 z. *Troy* of that Gold that is 23.1369 Carracts fine is better than Standard Gold; therefore ſay,

If 24 Carracts of pure Gold be worth 4 *l.* What will 1.1369 Carract of the ſame Gold be worth?

ANSWER.

.18948 *l.* = to 3 *s.* 9½ *d.* very near.

Secondly, Say,

If 1 z. *Troy* of Gold be .18948 *l.* better than the Standard, How much will 228 z. 8 *dw.* 18 *gr.* of the ſame Gold be better, or more valuable, than ſo much of Standard Gold?

ANSWER.

43.2843375 *l.* = to 43 *l.* 5 *s.* 8½ *d.* very near; and ſo much more valuable is the 228 z. 8 *dw.* 18 *gr.* of that Gold that cauſeth 11½ z. of the Water to run over than ſo much of Standard Gold. See the Operations following.

	Carracts.		*l.*		*Carracts.*		*l.*
As	24	:	4	::	1.1369	:	.18948

	z.		l.		z.		l.
As	1	:	.18948	::	228.4375	:	43.2843375

	z.		z.	dw.	gr.
Note,	228.4375	is equal to	228 --	8 --	18

Examples *of* SILVER *follow.*

EXAMPLE Firſt.

Suppoſe 1000 z. *Troy* of Standard Silver (that is Silver that has 11 z. 2 *dw.* of pure Silver, and 18 *dw.* of Copper in 1 *lb.* Weight) be put into a Veſſel fill'd to the Brim, with common clear Water, it will cauſe 94.9217 z. *Troy* of that Water to run over; It is required how fine that Silver is that will cauſe 100 z. *Troy* of the ſame Water to run over, when 1000 z. *Troy* is put into the Water?

ANSWER.

210.726174 *dw.* fine.

Reduce the 11 z. 2 *dw.* to *dw.* it will be 222 *dw.* and the Operation will be as follows.

z. — *dw.* — z.
94.9217——222——190
222

1898434
1898434
1898434

dw.
100) 21072.6174 (210.726174

More

More Water than 94.9217 z. runs over, therefore the 1000 z. of Silver, that cauſeth 100 z. of Water to run over, hath leſs pure Silver in 12 z. than 222 *dw.* which is the pure Silver 12 z. of Standard Silver hath in it, therefore the fourth Number muſt be leſs than 222 *dw.* which is the ſecond Number.

To find how much the 1000 z. of Standard Silver is more valuable than 1000 z. of that Silver that cauſeth 100 z. *Troy* of the Water to run over.

Firſt, Subſtract 210.726174 *dw.* in the Quotient, from 222 *dw.* the Difference will be 11.273826 *dw.* and ſo much 1 *lb.* or 12 z. *Troy* of that Silver that is 11 z. 2 *dw.* or 222 *dw.* fine, is better or finer than 1 *l.* or 12 z. of that which is 210.726174 *dw.* fine.

Secondly, To find how much the 1000 z. of Standard Silver is more valuable than 1000 z. of that which is 210.726174 *dw.* fine, ſay,

If 12 z. of Silver be 11,273826 *dw.* worſe than the Standard, how much will 1000 z. be worſe than the Standard?

ANSWER.

939.4855 *dw.* = to 46.974275 z. which at 5 *s.* 1½ *d.* the Ounce, is worth 12 *l.* 0 *s.* 8¼ *d.* Sterling, and ſo much the 1000 z. of Standard Silver is more valuable than the 1000 z. of that which would cauſe 100 z. of Water to run over. See the following Operation.

z. *dw.* z. *dw.*
12 : 11.273826 :: 1000 : 939.4855.

EXAMPLE *Second.*

Suppoſe 1354½ z. *Troy* of Standard Silver be put into a Veſſel fill'd to the Brim, with common clear Water, it will cauſe 128.57158 z. *Troy* of that Water to run over; I demand the Fineneſs of that Silver that cauſeth 120 z. *Troy* of the ſame Water to run over, when 1354½ z. *Troy* thereof is put into it?

ANSWER.

237.85742 *dw.* fine

```
          z.            dw.        z.
      128.57158——222——120
                222
      ————————————
          25714316
        25714316
       25714316
     ——————————————       dw.
120) 28542.89076 (237.85742
     240........
     ——————
        454
        360
      ——————
        942
        840
      ——————
        1028
         960
       ——————
         689
         600
       ——————
```

890

890
840

507
480

276

Becauſe leſs Water than 128.57158 z. runs over, therefore the 1354½ z. of Silver that cauſeth 120 z. of Water to run over, hath more *dw.* of pure Silver in 12 z. of it, than 222 *dw.* which is the pure Silver 12 z. of Standard Silver hath in it, therefore the fourth Number muſt be greater than the ſecond, and the leſſer Extream (which is the third Number) the Diviſor, and the Operation perform'd by the ſingle Rule of Three Inverſe.

Subſtract 222 *dw.* from 237.85742 *dw.* the Difference will be 15.85742 *dw.* and ſo much 12 z. of that Silver, that cauſeth 120 z. of Water to run over, is better than 12 z. of Standard Silver.

To find how much the 1354½ z. *Troy* of Silver, that cauſeth 120 z. *Troy* of Water to run over, is more valuable than ſo much of Standard Silver; obſerve the Operations following, *viz.*

z. *dw.* z. *dw.*
As 12 : 15.85742 :: 1354.5 : 1789.9062825
= to 89½ z. very near.

z. *d.* z. *d.*
As 1 ; [illegible]5 :: 89.4953141 : 5503.96181715
= to 22 *l.* 18 *s.* 8 *d.*

By

By the Operations above it appears, that the 1354½z. of Silver, that cauſeth 12oz. of the Water to run over, hath 89½z. very near of pure Silver in it more than 1354½z. of Standard Silver hath in it, which at 5*s.* 1½*d.* or 61½*d.* the Ounce is worth 22*l.* 18*s.* 8*d.* very near, and ſo much of the 1354½z. of Silver, that is 237.85742 *dw.* fine is more valuable than ſo much of Standard Silver.

Such as are well acquainted with Reduction, though they cannot perform any thing beyond it, may perform any Operation that is of the ſame kind with thoſe in this Chapter, if they obſerve carefully what follows, *viz.* for Gold.

Make the Weight of the Water, that would run over by the putting in a Quantity of Standard Gold, equal in Weight to the Gold to be try'd, the firſt Number, 22 Carracts the ſecond, and the Weight of the Water that runs over, by the putting in the Gold to be try'd, the third Number; then multiply the firſt and ſecond Numbers into one another, and divide their Product by the third Number, the Quotient, which is the fourth Number, will be the Fineneſs of the Gold you try in Carracts, or in Carracts and part of a Carract.

To find how much the Gold tryed is leſs valuable than ſo much of pure Gold.

Make 24 Carracts the firſt Number, 4*l.* Sterling the ſecond Number, and the Difference between the fourth Number in the Quotient, in the firſt Operation, and 24 Carracts the third Number [illegible] then multiply the ſecond and third Numbers into [illegible]e another, and divide their Product by the firſt Number, the Quotient, which is the fourth Number, will be the Value

Value of the Difference between 1 *z.* of the Gold tried and 1 *z.* of pure Gold in Sterling Money, *viz.* it will be of the Denomination the ſecond Numbe is of.

For Silver.

Make the Weight of the Water that would run over, by the putting in of a Quantity of Standard Silver, equal in Weight to the Quantity of Silver to be try'd, the firſt Number, 222 *dw.* the ſecond, and the Weight of the Water that runs over, by putting in of the Silver to be try'd, the third Number; then multiply the firſt and ſecond Numbers into one another, and divide their Product by the third Number, the Quotient, which will be the fourth Number, will be the *dw.* of pure Silver in 1 *lb.* or 12 *z.* *Troy* of the Silver you try.

To find how much 1 *lb.* or 12 *z.* *Troy*, of the Silver try'd, is leſs or more valuable than ſo much of Standard Silver.

Make 222 *dw.* the firſt Number, 3 *l.* Sterling the ſecond, and the Difference between the fourth Number, in the Quotient, in the firſt Operation, and 222 *dw.* the third Number; then multiply the ſecond and third Numbers into one another, and divide their Product by the firſt Number, the Quotient, which is the fourth Number, will be the Value of the ſaid Difference of that Denomination the ſecond Number is of.

Note, When coin'd Gold or Silver equal to the Standard is mentioned, that Gold or Silver is underſtood to be equal to the Standard not only in Fineneſs but in Weight, which is 1 *z.* *Troy* each Crown, and 5 *dw.* 9 *gr.* each Guinea, and proportionably for other

Pieces of Gold or Silver Coin, which it will not fail to be unleſs it be Counterfeit, or by long or much Uſage it come to be lighter, or being clog'd by ſomething ſticking to it, it is come to be weightier and of more bulk: For that *Britiſh* Coin may not want of the Weight and Purity required, it is moſt wiſely and carefully provided, that once every Year the chief Officers of the Mint appear before the Lords of the Council, in the Star-Chamber at *Weſtminſter*, with ſome Pieces of all ſorts of Monies coined the foregoing Year, taken at adventure out the Mint, and kept under ſeveral Locks by ſeveral Perſons 'till that Appearance, and then by a Jury of 24 judicious Goldſmiths, every Piece is moſt exactly weighed and aſſay'd. If this be conſtantly practis'd, it will be impoſſible for any of the Coin of *Great Britain* to want any thing of the Weight and Purity required.

I do not queſtion but another Way may be invented for Trying of Gold and Silver, and finding their Purity exactly, without melting, and that by finding their ſpecifick Gravity; the *Theorem* upon which that Practice is grounded, was (for what I know) firſt delivered by the moſt ſagacious *Archimedes*, whoſe Commentators have buſied themſelves in demonſtrating it in a Mathematical and Phyſical Way, tho' I have not heard that any of them have preſcribed Rules by which it may be done to a nice Exactneſs.

Archimedes's Propoſition is this, *That a Body heavier than Water, weighs leſs in Water than in the Air, by the Weight of as much Water as is equal to it in Bulk or Magnitude.* Tho' the Way of weighing of Solids in Water hath been delivered by the ingenious *Marinus Ghetaldus*, and out of him by ſome few other Authors; yet, ſince their Books are ſcarce, and the Knowledge of this Way is known but to very few, before I conclude, I ſhall for the Satisfaction of the Ingenious Reader,

Reader, who perhaps hath never ſeen any of them, write down in this Tract

The Way of Weighing ſinking Bodies in Water.

THE ſolid Body, given to be examin'd, is to be ty'd about with a Horſe-hair of a competent length, which Hair, at its other End, is to be faſtened to one of the Scales of a Tender, and exactly equilibrated Ballance, ſo that the propoſed Body being exactly weighed in the Air, (which near to the Superficies of the Earth hath the ſame Proportion to Water that 850 hath to 1) *(a)* and then immerſed in a Glaſs or other fit Veſſel, almoſt full of fair Water, may hang freely in that Liquor, being on every Side encompaſſed by it. This done, you muſt put into the oppoſite Scale as many Weights as will ſerve to bring the Body hanging in the Water to an exact *Æquilibrium* with the Counterpoiſe, and conſequently the Beam of the Ballance to a Horizontal ſituation. Then take out the Weights newly imploy'd, which gave you the Weight of the Body in the Water, and deducting it from the Weight formerly taken of the ſame Body in the Air, and by the Remainder, which will be the difference of theſe two, divide the whole Weight of the given Body in the Air, and the Quotient will ſhew the Proportion, in ſpecifick Gravity, between the examin'd Solid, and as much Water as is juſt equal to it in Bulk.

A Horſe-hair is made choice of, becauſe it's ſaid to be equiponderant to ſo much Water; and tho' it has been found not to be ſtrictly ſo, yet a Horſe-hair is fitter to be imployed in theſe Tryals than any String, and its ſpecifick Weight differs ſo little from that of Water, that the Difference may be ſafely enough neglect-

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(a) Sir Iſaac Newton's *Mathematical Principles of Natural Philoſophy.*

neglected; and if the Solid propoſed be too heav to be ſuſtained by a ſingle Horſe-hair, two may b twiſted, or (if need be) more of them.

There remain yet two Remarks, which muſt b pretermitted, if Men will avoid ſome Errors, tha are but too often ſlipt into by the Makers of Hydroſtatical Tryals. *Firſt*, Take notice, that the Body t be examined hang freely in the Water, ſo that no part of it touch the Bottom or the Sides of the Veſſel, o reach above the upper Surface of the Water containe in it; for if any of theſe Circumſtances be not taken care of, the true Weight of the Solid will be ſomewhat altered; and if any Corner, or other part of the Body, (and the like may be ſaid of the Horſe-hair 'tis tyed with) tho' but a ſmall one, appear above the Surface of the Water: that extant Portion being not at all ſuſtained by the Liquor, adds more or leſs to the Weight, that the immerſt Body ſhould have.

Care alſo muſt be had, that as nothing but the Water do touch the hanging Body, ſo no part of the Water may touch the Scale whence it hangs. There remains yet ſeveral other Remarks which might be uſefully mentioned, but I ſhall mention no more at preſent, ſeeing I have already ſhewed as exact, and, I preſume, a more expeditious Way of Trying of Gold and Silver, than can be done by finding their ſpecifick Gravity.

FINIS.

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